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ABSTRACT

This report presents a theoretical model and a practical guide for a survey feedback-problem solving-collective decision intervention in educational systems. The intervention focuses on work roles and relationships; job function, authority, and communication patterns; and on reviewing group progress and problems. One objective of the strategy is to superimpose complementary collective decision structures over the existing authority structure of the school. An experimental design was employed in the study to evaluate the effects of the intervention on teacher attitudes toward important aspects of their work environment and on faculty perceptions of collective decision processes in the schools. To assess the impact of the intervention, 24 schools in northern Illinois were assigned randomly to four treatment conditions: (1) SF-PS, which incorporates teacher collective decision structures; (2) survey feedback only; (3) pretest-posttest controls; and (4) posttest only controls. Elected faculty members were trained to lead the SF-PS sessions, provided a standardized attitude survey questionnaire for feedback, and assisted in establishing collective structural configurations in the full treatment schools. Questionnaire data indicated that the intervention brought about significant favorable changes in faculty attitudes in the experimental schools. (Figure 4.1 on page 37a may reproduce poorly.) (Author/DN)

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FINAL REPORT
Project No. 0-E-105
Contract No. OEG-5-70-0036 (509)

AN ASSESSMENT OF A SURVEY FEEDBACK-PROBLEM SOLVING-COLLECTIVE DECISION INTERVENTION IN SCHOOLS

September, 1972

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

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(p. 173)

II
Final Report
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AN ASSESSMENT OF A SURVEY FEEDBACK-PROBLEM SOLVING-COLLECTIVE DECISION INTERVENTION IN SCHOOLS

Robert J. Coughlan
Robert A. Cooke
L. Arthur Safer, Jr.

Northwestern University

Evanston, Illinois

September, 1972

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SUMMARY

The purpose of this study was to design, implement, and evaluate a survey feedback-problem solving-collective decision intervention in schools. The approach provided for organization development by incorporating data discussion and group problem solving techniques within collective decision processes. The strategy represents a task-oriented, structural approach to OD and, as such, differs sharply from such person-changing interventions as sensitivity training. The intervention focuses on work roles and relationships rather than on individuals; on job functions, authority, and communication patterns rather than on member traits and characteristics; and on reviewing group progress and problems rather than on assessing individual strengths and weaknesses.

An objective of the strategy is to superimpose complementary collective decision structures over the existing authority structure of the school. Collective decision structures were hypothesized to increase organizational effectiveness and improve teacher attitudes toward their work environment by providing opportunities for problem identification, solution generation, and change initiation at the faculty level. Survey feedback acts to initiate collective decision processes by providing an objective basis for problem and need identification. Task-oriented problem solving sessions provide for problem analysis and solution generation. The overlapping group structural configuration provides for improved vertical communication and facilitates change legitimation and implementation.

The report presents a theoretical model and a practical guide for a survey feedback-problem solving-collective decision intervention in educational systems. Factors hypothesized to account for the effectiveness of SF-PS-CD processes are noted and the planned change-supporting structures are analyzed in terms of primary structural dimensions of the school.

To assess the intervention's impact, twenty-four elementary schools in northern Illinois were randomly assigned to four treatment conditions: SF-PS which incorporates teacher collective decision structures; survey feedback only; pretest-posttest controls; and posttest only controls. Elected faculty members were trained to lead the SF-PS sessions, provided a standardized attitude survey questionnaire for feedback, and assisted in establishing collective structural configurations in the full treatment schools.

The study's experimental design was employed to evaluate the intervention's effects on: (1) teacher attitudes toward important aspects of their work environment and (2) faculty perceptions of collective decision processes in the schools. Questionnaire data indicated that the intervention brought about significant favorable changes in faculty attitudes in the experimental schools. Teachers in the SF-PS-CD schools also had more favorable perceptions of certain collective decision processes than their counterparts in the control schools. Interview data and documentary evidence suggested that the OD program effected changes in the structure of the experimental schools and brought about improved organizational health. Although the program did not seem to increase adoption of externally-generated innovations, improved faculty problem solving and increased teacher change initiation were evidenced.

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Dr. Frank Whiteley, Superintendent

Sanborn School
Mr. Martin Moon, Principal

Pleasant Hill School
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Mr. Tom Neilson, Principal

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Mr. George McKown, Principal

Cardinal Drive School
Mr. Michael Zawacke, Principal

Salk School
Ms. Harriet Foster, Principal

Wood School
Ms. Earlie Leaf, Principal

Winston Churchill School
Ms. Carol Todd, Principal

District 428 (DeKalb, Illinois)

Dr. Charles Fowler, Superintendent

Mr. James Robbins, Director of Research

Glidden School
Dr. James Parker, Principal

Littlejohn School
Mr. Irwin Cox, Jr., Principal

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Mr. C. Kenneth Platt, Principal

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Jefferson School
Mr. Robert Harkness, Principal

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Dr. George C. Zima, Principal

Districts 181 and 86 (Hinsdale, Illinois

Dr. Ronald W. Simcox, Superintendent

Dr. Thomas Hughes
Assistant Superintendent

Madison School
Mr. Albert Boysen, Principal

Oak School
Ms. Blanche Jaros
Principal

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Ms. Sue Chase

Littlejohn School
Ms. Ellen Engstrom

District 86

Madison School
Ms. Norma Sekel

District 122

Loves Park School
Ms. Betty Gilliland

Maple School
Ms. Margaret Nelson

North Park School
Ms. Constance Zingg

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District 46

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CHAPTER I

INTRODUCTION

Change has become a fixed condition of life in America today. Social and technological developments over the past quarter century have placed greater demands on our schools while, at the same time, the educational environment has become increasingly more complex and dynamic. In order to reach their present goals, our educational systems must be geared to employing their human and material resources more efficiently and effectively than they have in the past. They also must be capable of initiating new goals, structures, and programs to deal successfully with the complex problems that rapid change presents.

In recent years there has been emerging in the behavioral sciences a growing body of theory and practice called "organization development" (OD). A primary purpose of OD is to help organizations cope with the increasing scope and speed of social change (Bennis, 1969; Watson, 1967). This study was designed to evaluate the effectiveness of a multiple-component OD strategy in schools--a survey feedback-problem solving-collective decision intervention (SF-PS-CD)--through the use of field experimental methods.

There have been at least two basic approaches to OD in formal organization. The first focuses on individual and/or group development. An outgrowth of the human relations movement in industry and elsewhere, it is represented by such "person-changing technologies" as self-awareness exercises, group therapy, sensitivity training, and encounter groups (Harman, 1970).

The second approach stresses structural and/or technological considerations. Stimulated by a renewed interest in efficiency in education, it is exemplified in a variety of programs and techniques such as management by objectives, program planning and budgeting, operations research, and cost-benefit analysis (Kaufman, 1970).

The present study fused elements from these diverse approaches to organizational change. The intervention focused on selected work attitudes and perceptions of public elementary and junior high school teachers (grades K-8). We began by defining broadly the school organization in terms of its official and human aspects. The official aspects of the school are represented in its structure and technology. The human aspects concern those individuals as well as formal and informal groups comprising the staff of the school.

The school's technology encompasses the knowledge and skills associated with the teaching-learning process. Also included are the materials, facilities, and equipment consumed in this process. The structure of the school is expressed in terms of objectives, policies, rules, and work goals. This dimension also covers such traditional organization concepts as job roles and relations, authority patterns, communication networks, and work-flow.

Individuals consist of the persons employed to fill the official administrative and teaching positions in the school: principal, classroom teachers, and special service personnel. In thinking about individuals attention generally focuses on such factors as their personal and social needs, interests, aptitudes, attitudes, and expectations. Formal groups in the school are organized around the work itself such as in grade levels and departments. Informal groups emerge in staff interaction on the basis of such factors as age, sex, ethnicity, training, work values, and social interests.

In the survey feedback-problem solving-collective decision strategy investigated in this study, greater emphasis was placed on structural and technological than on individual or group factors as such. Our focus was on organization goals, policies, and procedures rather than on the work habits and character traits, motivations, or emotional maturity of individuals. The educational program and its perceived effectiveness took precedence in analysis over such dimensions as the personal and social relations among individuals and groups in the school.

In short, the OD process we examined tended to be more impersonal than personal, more objective than subjective. It analyzed problems rather than appraised people per se; it focused on the jobs to be done rather on the people who were doing them; it emphasized work progress and problems rather than individual or group strengths and weaknesses.

Our original interest in this strategy stemmed from two basic dissatisfactions with the more commonly-used OD technologies. These center mainly around issues of efficiency and acceptance.

From our reading of the OD literature, we surmised that the financial outlays associated with most change programs based either on variants of sensitivity training or "systems analysis" generally exceed the budgets of most school districts--exactly at a time when school boards are under fire from legislatures and taxpayers to cut costs. We were concerned that school systems much in need of improvement would fail to engage in OD efforts because of the expenses for outside consultants, purchases of equipment, employment of new personnel, and manhours of staff time off the job. We were interested therefore in exploring a method of OD which seemed to hold promise for effecting durable change while minimizing direct and indirect costs to the client system.

In our work with administrators and teachers in recent years we also were impressed by an apparent growing staff resistance to change programs that emphasize either the personality traits of individuals on the one hand, or "dehumanized technologies" on the other. It seemed to us that school personnel would be more accepting, at least initially, of an OD program which avoided a strong focus on either of these elements.

Finally, in our opinion both the knowledge base supporting the more commonly-used OD methods and the specialized roles required for their installation are relatively complex and underdeveloped. The SF-PS-CD intervention, on the other hand, involves the application of a comparatively simple and better-understood technology. A program leader elected from the current staff and trained in data feedback and group problem solving, administrator-faculty policy and review committees, a standardized attitude questionnaire, and a series of faculty problem solving sessions with planned follow-up action programs comprise the basic ingredients of the strategy.

On the basis of rough cost estimates we felt the SF-PS-CD intervention we proposed to test may, at this point in time, be a more feasible (and hopefully more effective) approach to OD in schools than those methods which require greater inputs in money, skills, and equipment.

The Study's Purposes and Dimensions

The study was concerned primarily with the effects of SF-PS-CD on teacher work attitudes in the school. Secondarily we were interested in its impact on organizational innovativeness and effectiveness. In conceptualizing relationships, we assumed that individual/work group and organizational level dimensions would intervene between the study's independent and dependent variables.

At the organizational level, we hypothesized that the intervention in effect would create teacher collective decision making and change-supporting structures within the school. These structures were designed to complement the existing school authority structure by providing specific teacher inputs into the identification and solution of problems and by fostering the institutionalization of improvements in the school. At the individual/work group level, we hypothesized that the degree to which the teachers perceived this decision making structure as operative and fully-functioning and productive of greater organizational effectiveness and innovativeness would be reflected in their attitudes toward their total work environment.

The study therefore was concerned with developing an understanding of two broad problems of interest to OD theorists:

1 As a result of the SF-PS-CD intervention, will complementary teacher collective decision making structures emerge in the school which in turn lead to increased organizational effectiveness and innovativeness?

2. If so, how will these structural changes and school improvements affect teacher perceptions of collective decision making and their attitudes toward important aspects of their work environment?

The specific objectives of the research were formulated in response to these questions. They were five-fold:

1. To establish field experimental conditions to test the impact of the SF-PS-CD processes on school organizational effectiveness/innovativeness and teacher work attitudes.

2. To assess the degree to which complementary collective decision making and change-supporting structures are instituted as a result of the SF-PS-CD strategy.

3. To evaluate the effectiveness of SF-PS-CD for increasing general organizational effectiveness and innovativeness.

4. To assess the degree to which teachers in the SF-PS-CD schools perceive the collective decision making structures as operative and fully-functioning.

5. To assess the extent to which the opinions and attitudes of teachers toward their work environment change as a result of the total planned intervention.

The study also was designed to find answers to such practical administrative problems:

1. Within what types of decision making structures do teacher groups operate most effectively and efficiently? Are different decision making processes appropriate for dealing with different types of school problems?

2. How should decision making be carried out in a school? To what extent can teachers be directed and controlled in the traditional sense and still operate creatively, effectively, and with a relatively high level of job satisfaction?

Overview of Findings

Seven schools selected randomly from a target population of twenty-four elementary schools were involved in the SF-PS-CD intervention. Faculty leaders from these schools were elected and trained, data on school functioning for feedback were collected, and overlapping faculty-administrative groups for collective decision making on identified problems and needs were formed. The remaining seventeen schools in the sample were also randomly assigned to three control conditions: survey feedback only, pretest-posttest control, and posttest only control. At the organizational level, we hypothesized that, as a result of the intervention, collective decision structures would be established in the experimental schools which would increase organizational effectiveness, innovativeness, and health. At the individual/work group level, we hypothesized that experimental school teachers would also perceive greater effectiveness, collectivity, and participation in decision making and as a consequence develop more favorable attitudes toward their total work environment.

An informal technique evaluation and structural analysis indicated that the extent to which collective decision structures were established in the seven experimental schools varied. Interviews with program leaders and principals revealed that relatively "complete" collective decision making structures were superimposed successfully over the authority structures in four schools. Although SF-PS-CD procedures were being used in a fifth school, there was some evidence that faculty problem solving activities were not adequately coordinated with on-going authority decision processes (partially due to a turnover in key personnel). In another school, the survey feedback and problem solving procedures were being used effectively, but the collective decision configuration was only partially established. Program activities were discontinued in one school after the survey feedback and the collective structures failed to be established.

Although we did not attempt to evaluate school outputs objectively, interviews and documentary evidence obtained from the experimental school principals and program leaders indicated that the intervention did enhance school effectiveness and facilitate change. Representatives from the majority of the experimental schools described a number of important developments resulting either directly or indirectly from program activities. Changes within the schools were ascribed primarily to group feedback and problem solving and other program committee activities. There was little evidence that the intervention increased the adoption and implementation of externally-generated technological innovations. Interview data also suggested that the intervention had beneficial effects on school organizational health. Improvements were noted particularly in communication adequacy, resource utilization, cohesiveness, morale, and problem solving adequacy.

At the end of the one-year experimental period, questionnaire date disclosed that teachers in the SF-PS-CD schools perceived greater collectivity and participation in decision processes than did the control school faculties. There seemed to be a positive relationship between the quality of the superimposed decision structures and favorable faculty perceptions of collectivity. Perceptions of collective decision processes were particularly positive in three of the four schools which succeeded in implementing "complete" collective structural configurations.

The intervention seemed to have its greatest impact on faculty work attitudes. In the experimental group, teacher attitudes toward important aspects of their work environment become significantly more favorable. Gain score analysis showed that changes in the experimental group were significantly more favorable than those in the control groups. SF-PS-CD faculty attitudes were generally more favorable than posttest only control school faculty attitudes at the end of the first year of the program. While the intervention failed to improve teacher attitudes toward all aspects of the work environment, it did bring about changes along those dimensions that logically would be affected by the strategy. These changes were highly significant and the data generally supported the major hypothesis of the research.

Limitations of the Study

The scope of the study was confined to describing and predicting selected dimensions of teacher group behavior in twenty-four small city and suburban schools. The restricted nature of this sample severely constrains any broader generalizations that can be made from the study's descriptive findings. The study was also limited by the fact that greater emphasis was placed on product rather than process evaluation. To maximize the autonomy of the experimental schools ("can they do it by themselves?") and to minimize program costs, we avoided monitoring the activities of the school problem solving groups. While this strategy permitted summative product evaluation of a relatively low cost OD program, greater detail regarding the nature or quality of events (the process) over the one year experimental period was sacrificed.

Notwithstanding, the research should have relevance for both the theory and practice of OD. At the conceptual level, it provides an expanded theoretical framework for survey feedback and problem solving, a specific formulation of the process, and empirical data on the problems and potential of this important and infrequently-tested strategy for planned organizational change. In this sense, the research has a heuristic value in that is should contribute to an increased understanding of OD processes in general and in particular as they are applied in school organizations.

At the practical level, the study generated new organization development models, materials, and methods. These by-products should prove useful to school administrators and OD specialists in planning and implementing programs for in-service staff development and organization improvement in educational organizations.

An Outline of Future Chapters

The report is organized into seven chapters. The Introduction placed the research in the context of investigations related to the development and testing of OD methods for planned change. The study's purposes, major dimensions, and the nature of our results were also discussed briefly in this chapter.

Chapter II outlines theoretical concepts and previous empirical findings that are useful in understanding the three organization development components used in the research. We begin with a brief review of previous research focusing on survey feedback and problem solving strategies. Innovation decision making, change processes in organizations, and ideal models of the collective and authority decision processes are then presented. The potential benefits of dual decision structures for elementary schools are highlighted and the collective decision process is considered in terms of the survey feedback and problem solving components.

Chapter III presents a detailed description of the SF-PS-CD program we employed as the independent variable of the study. This strategy assumed that there are several essential steps in creating conditions for OD. Two aspects of these steps--the substantive and administrative--are presented in this chapter. Program activities are discussed in terms of collective decision making subprocesses.

Factors hypothesized to account for the effectiveness of the SF-PS-CD intervention are presented in Chapter IV. The aim of this chapter is to present the theoretical framework undergirding the intervention and to provide an overview of the process. Collective decision subprocesses are discussed in terms of program inputs at organizational, work group, and individual levels of analysis. The crucial variables of the study are then interrelated within a broad conceptual scheme. Previous research is cited to support the hypothesized program effects--including the intervention's impact on organizational effectiveness and innovativeness and teacher perceptions of collective decision making and work attitudes.

The hypotheses and procedures of the study are discussed in Chapter V. Included are descriptions of the general experimental design, population and sample, and data and instrumentation. General hypotheses, statistical predictions, and exploratory research questions are given in this section.

The findings of the investigation are presented in Chapter VI. Here the relationships between SF-PS-CD, organizational effectiveness and innovativeness, teacher perceptions of collectivity and decision making processes, and teacher attitudes toward their work environment are compared and highlighted with data from the experimental and control schools.

In Chapter VI, the findings are further discussed and summarized. Implications for the theory underlying the research, for future research, and for OD processes in schools and elsewhere conclude the final chapter of our report.

CHAPTER II

SURVEY FEEDBACK, PROBLEM SOLVING, AND ORGANIZATIONAL DECISION PROCESSES

Various approaches to organization development have been employed to increase the effectiveness of educational systems.[1] Contemporary change-producing interventions incorporate multiple OD components ranging from person-changing to structural-modifying strategies. The OD intervention we used for this action-research project includes three specific components: survey feedback, problem solving, and collective decision structures. The purpose of this chapter is to provide an overview of these components. First, we review survey feedback and problem solving strategies and selected empirical studies of SF-PS. Second, two types of innovation decision making in organizations are examined: the collective and authority processes. Finally, a model of collective decision making is presented and discussed in relation to the criterios of effectiveness in educational systems.

Survey Feedback and Problem Solving

Survey feedback and problem solving interventions employ behavioral science technology and organization theory to alter favorably the structure and functioning of organizations. Effective SF-PS strategies potentially can increase the "health" of educational organizations by modifying both the administrative behavior of educators and the structural dimensions of their organizations. The intervention is designed to improve the ability of organizations, both educational and otherwise, to interact with their environment and to cope with long-range problems. The objective of improved organizational health also includes changing second-order system properties such as communication adequacy, power equalization, morale, innovativeness, and problem solving adequacy (see especially Miles, 1965, on the notion of organizational health).

Organizations commonly use two types of feedback to guide their functioning and to identify needed changes. The first is feedback from the environment which is concerned with the acceptance of the organization's

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[1]Sections of this Chapter were adapted from Robert A. Cooke, "Complementary Collective Decision Structures for Educational Systems," 1972.

product or the effectiveness of its services. The second type of feedback is related to the internal functioning of the organization. Included here are (1) technical or production and (2) human or organizational participant feedback (Katz and Kahn, 1966, pp. 416-417). In industrial organizations, the need for change is signaled when the firm's products and/or services are no longer in demand in the marketplace. In comparison, educational organizations receive minimal "dollar-vote" feedback from the environment due to the public nature of schools and the absence of effective competition. Similarly, the potential for production or technical internal feedback is also lower in schools than in industrial and other types of organizations. This is the result of such factors as goal ambiguity, low role performance visibility, and the underdeveloped state of evaluation techniques in education. Given these conditions, the monitoring of participant opinions and attitudes toward their work situation is possibly the most reliable and practical type of feedback available to educational systems. SF-PS techniques offer an effective means for obtaining and employing this type of internal feedback as one basis for initiating change.

SF-PS strategies combine the elements of two approaches to organization change which emphasize the principle of mutually shared power: data discussion and group problem solving strategies (Greiner, 1965). SF-PS has been defined by Miles as:

> . . . a process in which outside staff and members of the organization collaboratively gather, analyze and interpret data that deal with various aspects of the organization's functioning and its members' work lives, and using the data as a base, begin to correctively alter the organizational structure and the members' work relationships (Miles et al., 1969).

The data feedback process, as developed by Mann, Likert, and others was designed on the basis of a series of observations concerning the acceptance of survey results in operating organizations. These include: (1) the need for a high degree of group participation and personal involvement in the feedback process at all organizational levels; (2) the importance of group factors in facilitating attitude change and redifinitions of situations; (3) the need for recognizing and utilizing the organization's power structure in feeding back the data; and (4) the importance of self-analysis, rather than analysis offered by an outsider, in bringing about change (Mann and Likert, 1952).

The SF-PS approach stresses objectivity and quantification in the change process. As such, it differs sharply from such laboratory methods of human relations training as T-Group or sensitivity training. In SF-PS, the focus is on work roles and relations rather than on individuals, on job functions, accountibility, authority, and communication patterns rather than on the traits and characteristics of individuals, on reviewing group progress and problems rather than on assessing individual

strengths and weaknesses. The distinctions between laboratory methods and survey feedback have been characterized by Miles as follows:

> First, . . . in human relations training the process of feeding back subjective data is mediated by the (group leader) and/or other group members, respectively. In survey feedback, however, the process is mediated by objective data which group members have helped collect, analyze and interpret. Second, in . . . training the analysis of data occurs mostly at the intrapersonal, interpersonal or group level; survey feedback usually focuses more centrally on the role, inter-group and organizational levels. (Miles et al., 1969, p. 459).

Our search of the literature relating to the effectiveness of feedback and problem solving procedures in effecting durable change revealed few empirical studies--especially those focusing on educational systems. Mann's (1957) research applied survey feedback techniques in industrial organizations. His data indicated that the survey feedback intervention brought about favorable developments in four accounting departments when compared with two control departments. In the experimental groups, significant positive changes occurred in employee attitudes toward important aspects of their work (e.g., the kind of work they do, their supervisors, their progress in the organization, their group's effectiveness). Additionally, members in the experimental groups perceived positive changes in: "(1) how well the supervisors in their departments got along together; (2) how often supervisors held meetings; (3) how effective these meetings were; (4) how much their supervisors understood the way employees looked at and felt about things, etc." (Mann,1957,pp. 161-162).

Baumgartel conducted a similar experiment in six accounting departments in major industrial firms. The study focused on aspects of organization functioning, work, and social relations. Four of the six departments received the results of a survey questionnaire. The groups which took part in this feedback felt that : "(1) they were better in getting the job done; (2) they were freer to take job problems to their supervisors; (3) their supervisors got along better with one another; (4) their supervisors better understood their point of view; and (5) they understood better how their supervisor sees things " (Baumgartel, 1959; Bennis, 1969, p. 9).

Klein, Kraut, and Wolfson (1971) investigated the impact of attitude survey feedback and the respondents perceptions of the feedback process. They also examined perceptions of survey utilization under a variety of feedback conditions. They found that process variables act as powerful predictors of the dependent measures of satisfaction and perceived utilization:

> A model of information dissemination was posited whereby the relationship between structural variables and attitudes was moderated by

> process variables. This was supported by the data. In addition it was found that the process variables were of two classes: communication and involvement, the former predicting better to satisfaction with survey feedback and the latter predicting better to perceived utilization of the survey's results (Klein et al., 1971, p. 497).

While the research of Klein et al. focused on manufacturing managers and employees, their results have important implications for SF-PS programs in schools. For example, they found that two or more feedback meetings resulted in higher satisfaction with the data than did a single meeting. Feedback meetings were preferred to written reports alone, and the line manager was preferred over a staff specialist as the feedback leader.

Perhaps the most significant investigation of the feedback strategy in educational systems was carried out by Miles et al. (1969) in a single school district. Focusing on power equalization, communication patterns and norms, these researchers concluded that the program ". . . did begin a process of organizational change at the top of the school system, which then showed some regression following the initial active involvement of lower-echelon people, with the net effect that no durable changes were found" (p. 458). Interview data indicated that there were improvements in communication and interpersonal relations among administrators. However, power equalization between teachers and administrators did not occur as hypothesized.

Empirical research has shown frequently that OD interventions fail to bring about lasting changes in organizational effectiveness and/or in work attitudes. We posited that this failure was due to a lack in the intervention to establish enduring change-supporting structures which would provide needed support for improvements in interpersonal relations, communication adequacy, and/or problem solving capabilities. Our OD strategy, while building on previous work in this field, focused on the routinization of new change-supporting structures in the experimental schools. The overall objective of the strategy was to superimpose a complementary collective decision making structure over the existing authority decision framework in the experimental schools. The SF-PS-CD strategy thus concentrates primarily on structural and secondarily on human variables in effecting improvements in the school's task system (see Leavitt's typology of change strategies, 1965).

In our model, collective decision structures provide for problem identification, solution generation, and change initiation at the technical core (faculty group) level of the school. Thus change is facilitated from the bottom up in the organizational hierarchy. We hypothesized that a collective decision structure could be implemented in a manner consistent with, and thus complementary to, the ongoing authority structure of the system. When operating simultaneously, the two decision structures would each be affected by the other; that is, the collective

structure would be influenced by the hierarchically-differentiated roles in the authority structure and the authority structure would be modified toward greater faculty participation in decision subprocesses as a result of the collective structure. In effect, the two decision structures--authority and collective--would act and react in resonance.

Many SF-PS interventions focus on improving authority decision procedures in the target organization; our strategy fused survey feedback and problem solving procedures to collective decision processes. Organizational change is initiated through the use of survey feedback and sustained thereafter by means of structured problem solving activities and new structural configurations. The potential for effectiveness of this structural approach to OD seem to us to be relatively high. First, the intervention attempts to modify the structure of collective decision making which commonly is underdeveloped in most formal organizations. Direct and radical changes in the ongoing authority decision processes of the school and school district are not involved in the strategy. As such, we felt the intervention could bring about greater and more enduring changes in overall decision processes with less administrative (or staff) resistance. Possible more important, the strategy provides for two complementary, but theoretically distinct, decision making structures. The major thrust of our thinking was that the operations of these two decision structures--if viable--would bring about greater organizational health and effectiveness and more favorable teacher work attitudes in the experimental schools.

The remainder of this chapter reviews theory and concepts related to authority and collective decision processes in school systems. A general model of the collective decision process is presented, one which stresses innovation and change. As in the case of authority decision making, collective decision structural profiles can vary greatly. We expected that a relatively standardized and formalized collective decision structure would emerge as a result of our planned intervention. The emergent structural characteristics of our experimental schools will be discussed in Chapter IV.

Change and Innovation Decision Processes in Schools

As in many formal organizations, decision making and change processes in elementary schools tend to be authoritative. Authority innovative decisions are those ". . . which are forced upon an individual by someone in a superordinate power position" (Rogers and Shoemaker, 1971, p. 301). According to Rogers and Shoemaker, authority decisions imply the existence of two different units in a social system: (1) the adoption unit which consists of those individuals who must take over and actually

use the innovation, and (2) the decision unit, which includes those individuals who have formal authority over the adopting unit and who decide whether the subordinate group will utilize prescribed innovations. In elementary school organizations, school boards, superintendents, and principals commonly assume decision unit roles as they respond to community pressures, state and federal legislation, and new knowledge and technology. Change decisions made at the managerial and institutional levels are communicated to technical core operatives (the faculty) who then are expected to carry out the change, i.e., incorporate the new program or procedure into on-going operations.

Numerous change and decision making models, both prescriptive and descriptive, have been developed in the organization theory and diffusion of innovation literature. These models suggest that the innovation decision process in schools involves a number of distinguishable subprocesses. The ideal model of the authority innovation decision process we have constructed below builds on the work of Rogers and Shoemaker (1971), Aiken and Hage (1970), and Stufflebeam (1967), and is largely consistent with other organizational change models [see Maguire's review, (1970)].

As indicated in Figure 2.1, the authority innovation decision process encompasses seven stages: context evaluation, input-evaluation, initiation, communication, adoption, implementation, and routinization. Superordinate-initiated change commonly deviates from this prescriptive model and, as a result, the innovativeness of schools varies. Holding other factors constant, to the degree that authority decision processes are employed effectively in educational organizations, certain types of innovations and change can be implemented efficiently and effectively.

Authority innovation decision processes are initiated at and controlled from the top of the organizational hierarchy. Hage and Aiken, in their theory of social change in complex organizations, observe that the process begins ". . . when organizational decision makers determine that either the organization is not accomplishing its present goals as effectively or efficiently as possible or when decision makers alter or amend the goals of the organization" (1970, p. 94). On the basis of their identification, interpretation, and operationalization of school goals, decision unit members continually monitor their organizations' situation in an attempt to uncover discontinuities between performance and objectives. Likewise Stufflebeam's model for the evaluation of educational change includes context evaluation which involves identifying and defining "(1) the major subsystems of the domain to be served; (2) the unmet needs of the domain through an assessment of the discrepancies among intended and actual outputs of the subsystems; and (3) the basic causal problems underlying each need" (1967, p. 129). The extent to which administrators evaluate effectively the functioning of their organizations varies; this variation in turn is causally related to the ability of educational systems to innovate successfully. In this sense, the prescriptive nature of

THE AUTHORITY INNOVATION DECISION PROCESS

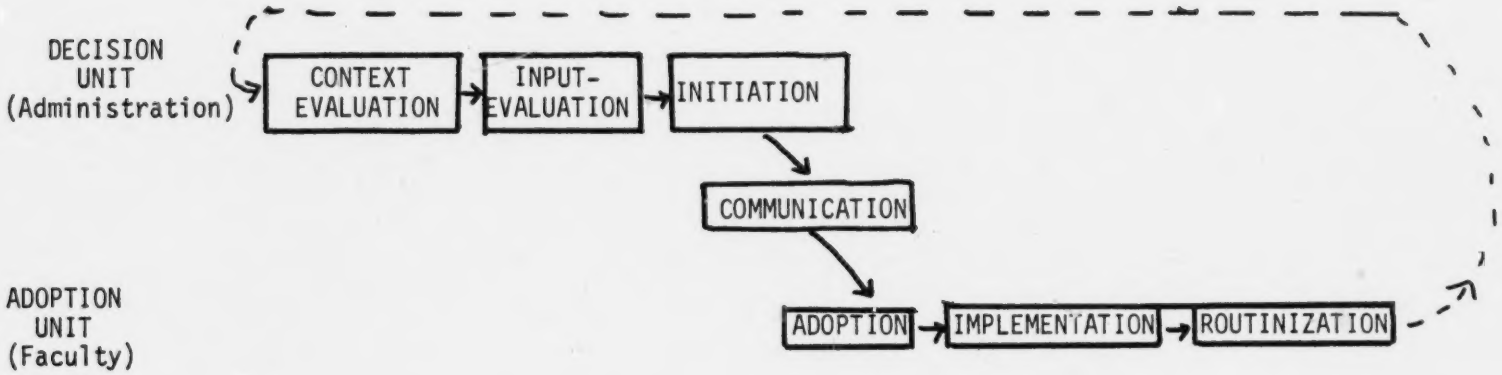

Figure 2.1

the authority decision model becomes evident.

As school problems and needs are identified, administrators must also determine whether the situation demands an innovative, rather than a traditional, response, and whether the solution must be entirely new or can be based on modifications of existing innovative alternatives. Depending on that determination, they either invent new solutions themselves or utilize knowledge transmitted from sources within and without the school system. Administrators gain knowledge about educational innovations from external sources (e.g., through Regional R and D Labs, commercially-based linking organizations, university personnel during action-research programs, or from members of the community) and from internal sources (e.g., staff specialists). This second stage of the authority decision process thus involves both the search for and "receiving" of new ideas and the evaluation of possible system inputs. Specifically, formal input evaluation facilitates activities at this second stage by providing information for deciding:

> . . . whether outside assistance should be sought for meeting goals and objectives, what strategy should be employed, e.g., the adoption of already developed solutions or the development of new ones, and what design or procedural plan should be employed for implementing the selected strategy (Stufflebeam, p. 129).

After "sufficient" information has been collected at the input-evaluation stage, decision unit members determine next which specific changes, (if any) will be implemented in the school. The third subprocess, initiation, involves the actual decision concerning the innovation (Rogers and Shoemaker) and the systematic planning for the change (Hage and Aiken). It is important to note that the first three stages of program change in formal organization are not necessarily dominated by the decision unit. Authority decision processes, though essentially initiated and directed by superordinates, may be participative as subordinates are involved in evaluation and initiation activities. Participation may complicate the process and decrease the rate of change at these early stages, but it may also result in increased subordinate acceptance and satisfaction with innovation decisions.

To the extent to which authority decisions are non-participative, the stage of communication becomes more clearly distinguishable in practical situations. Rogers and Shoemaker observe that: "When the decision unit has chosen the innovation alternative it wishes to adopt, messages must be transmitted in a downward flow from superiors to subordinates, following the authority pattern of hierarchical positions, to the adoption unit" (p. 309). Communication serves both (1) as a process link between the evaluation and initiation stages and the action and implementation stages in the authority decision process and (2) as a structural or network link between the decision unit (superordinates) and the adopting unit (subordinates) in the organization.

The adoption stage involves the adopting unit members' acceptance of the innovation transmitted to them. It reflects the extent to which technical core members accept and are satisfied with the proposed change or innovation. Adoption is conceptually distinct from implementation, the stage at which the program actually is put into practice. The implication is that subordinates are expected to utilize new programs which they do not accept and/or are unable to implement other programs even if acceptance has been obtained. The effectiveness of organizational change is hypothesized to be inversely related to the degree of innovation dissonance, i.e., the discrepancy between subordinate attitudes toward the innovation (adoption) and their overt behavior as prescribed by their superordinates (implementation). [See Knowlton (1965) and Rogers and Jain (1968) on the topics of innovation and dissonance.] Organizational disequilibrium therefore is greatest at the implementation stage due to the increased number of personnel now involved in the change and unanticipated discontinuities between the new program and existing organizational pattern and procedures.

Problems in change implementation may be identified through existing communication channels or through the use of special evaluation programs. Stufflebeam proposes process evaluation as a way ". . . to detect or predict, during the implementation stages, defects in the procedural design or its implementation" (p. 129). The extent to which sophisticated process evaluation is consciously employed in most educational systems is probably limited. However, the successful routinization or merging of a new program with existing organization procedures depends on the administration's ability to identify and solve problems associated with the change. Program routinization also is contingent upon the degree of acceptance by technical core members and their decision to support rather than ignore or sabotage the new program. Program routinization also implies that new roles and procedures associated with the innovation must become standardized and formalized. At this point, the routinized program can be subjected to summative or product evaluation. The program is implicitly evaluated within the context of other organizational objectives and procedures as context evaluation continues, reflecting the circular nature of the authority innovation decision process.

As noted earlier, the above conceptualization of the authority decision process is presented as an ideal model. In practice, the model may not reflect the actual behavior of school administrators in bringing about change. For example, it is doubtful that school administrators presently utilize rigorous evaluation programs such as those suggested by Stufflebeam or Guba (1968). More generally, the authority decision process can deviate from the ideal model or "break down" at any of the hypothesized stages. We in fact propose that failure to innovate in educational organizations is partially the result of the schools' inability to perform these subprocesses successfully.

We suggest, however, that breakdowns in the authority decision process are not the only structural barriers to change in educational systems. Another closely related problem is that authority decision structures may be inherently incapable of dealing with certain problems or of bringing about certain types of change in educational organizations. Additionally, the authority decision process and structure, in the absence of other supportive or complementary structures, may fail to unleash forces for durable change which exist within the organization. A few observations, well-known to organization theorists,support these contentions and will be briefly reviewed below.

First, the authority decision process places change advocacy within the offices of hierarchical superordinates, chiefly the principal and superintendent. These individuals may be at a relative disadvantage in initiating change due to the balancing nature of their roles. Spindler notes that the major administrative function ". . . is in large part that of maintaining a working equilibrium of at best antagonistically cooperative forces. This is one of the reasons why school administrators are rarely outspoken protagonists of a consistent and rigorously profiled point of view" (1963, p. 142). Considering this observation and the fact that educational problems and innovations derive their relevance from larger social systems (such as the state or nation rather than the local community), Gallaher (1965) suggests that the school administration role is not by nature conducive to advocacy functions. Stiles and Robinson add that local social majorities expect school personnel to maintain the status quo rather than bring about change:

> . . . educational professionals, by the nature of their employment, are enslaved to the status quo; they are not free to advocate change, except, of course, to keep schools aligned with majority changes in the society itself . . . (1973)

It also has been observed that educational administrators, as public employees, direct reactive rather than proactive organizations; that is, the schools for the most part respond selectively to changes in their environment rather than initiate improvements on their own. Internally-generated change is difficult because it necessitates modifying extremely durable community values and attitudes. It is unlikely that educational administrators, who are expected to assume balancing functions, are in the "right position" to initiate a wide range of changes which counter the culture in which they are immersed.

Second, school administrators are poorly positioned within the organization for identifying operational problems and suggesting relevant innovations for meeting needs. Upward communication in hierarchically-structured organizations is often poor for a variety of reasons. Subordinates sometimes distort information, filter out items potentially objectionable to superordinates, or repress information which could affect them

adversely (Erickson and Pedersen, 1967). With such inherent limitations in upward communication, administrators are unable to gather relevant information regarding particular types of problems. In some cases, they may not know that certain problems exist; in other instances, they may not have sufficient information to solve the problem effectively or suggest a relevant innovative change.

Third, authority decision structures fail to tap the problem solving and change initiation capabilities of technical core members. This oversight may be particularly dysfunctional in schools, where operatives are said to represent a dedicated and knowledgeable group. It has been suggested that properly functioning faculty meetings and temporary change systems at the lower organizational levels can serve as effective mechanisms for change (Miles, 1965). Teachers are often in a better position than administrators to identify and specify certain types of problems. Their ability to generate and transmit relevant innovations and new alternatives for particular system needs may also be superior. Additionally, as the number of organizational participants involved in problem specification and solution generation increases, so also does the probability of attaining a sufficient "change mass" or needed impetus for change.

The final problem to be mentioned concerns teacher satisfaction with and acceptance of authority decisions. Numerous studies have shown that as participation in decision processes decreases, the acceptance of those decision outcomes decreases. As acceptance decreases and innovation dissonance increases, the probability that new programs will be routinized successfully in the organization decreases. One means for circumventing these problems is to involve teachers through participation in the authority decision process. An additional and possibly more efficient means may be the development and utilization of a separate collective innovation decision structure which operates in complementary fashion with the on-going authority decision structure. We now turn our attention to this consideration.

Collective Decision Structure

Collective innovation decisions are those made by members of a social system or formal organization by consensus. Rogers and Shoemaker (1971) have conceptualized a five-stage model which represents "sociological" innovation decisions involving a great number of participants. We present an extended and modified version of their model to represent collective innovation decision processes which are consistent with the structure of formal educational organizations. The modified model includes seven subprocesses: collective evaluation, stimulation, internal diffusion, legitimation, adoption, implementation, and routinization. The ideal model, illustrated in Figure 2.2, has been conceptualized as a theoretical guide for designing structural organization development interventions, such as the SF-PS-CD strategy testing in this study.

The decision process begins with collective evaluation, the identification of perceived organizational objectives, present organizational performance, and the specification of problem and needs. Unlike context evaluation, this function is initiated, directed, and carried out by lower organizational or technical core participants. Collective evaluation in schools implies that faculty members are provided sufficient time and proper mechanisms for the identification and analysis of organizational goals and problems. In structural terms, collective evaluation necessitates the formalization of informal and natural work groups specifically for this purpose. Faculty members are given the opportunity to interact in a structured situation to identify and diagnose problems, particularly those that fail to be communicated upward or can be better solved at the technical core level.

The second subprocess, stimulation, involves the developing of suggestions and potential solutions to existing problems and/or stimulating interest in new ideas (Rogers and Shoemaker). Stimulation, in educational systems, reflects solution generation and innovation initiation by faculty members as a group. As in the case of collective evaluation, stimulation is possible only to the extent that faculty members are given the opportunity to meet as a group on a regularized basis. Innovative solution generation is facilitated when faculty members receive special training in such critical skills as group problem solving, communication, and team leadership.

Internal diffusion reflects the communication of new ideas and suggestions for change horizontally throughout the organization. This stage also includes possible modification of ideas and proposed solutions resulting from feedback from other organizational members. Problem identification and solution generation are carried out in natural work groups, along departmental or grade level lines. Collective decision making, however, implies that all organizational members affected by the decision are involved through the diffusion process at an early stage. In the process, proposed changes are initiated and communicated to members of other departments (who are also members of problem solving groups). Receiving organizational members, as a result of professional training and departmental identification may, to one degree or another, be heterophilous to the transmitting group. Consequently, certain ideas may have to be modified to better fit their needs and goals. Internal diffusion has at least two functional consequences. First, as more organizational members are involved in problem solving process, understanding and acceptance of generated solutions should increase. Second, as organizational members increase their communication with other, possibly heterophilous, participants, the diffusion of new ideas should increase. Internal diffusion, however, necessitates more efficient horizontal communication channels than those present in most authority decision structures.

THE COLLECTIVE INNOVATION DECISION PROCESS

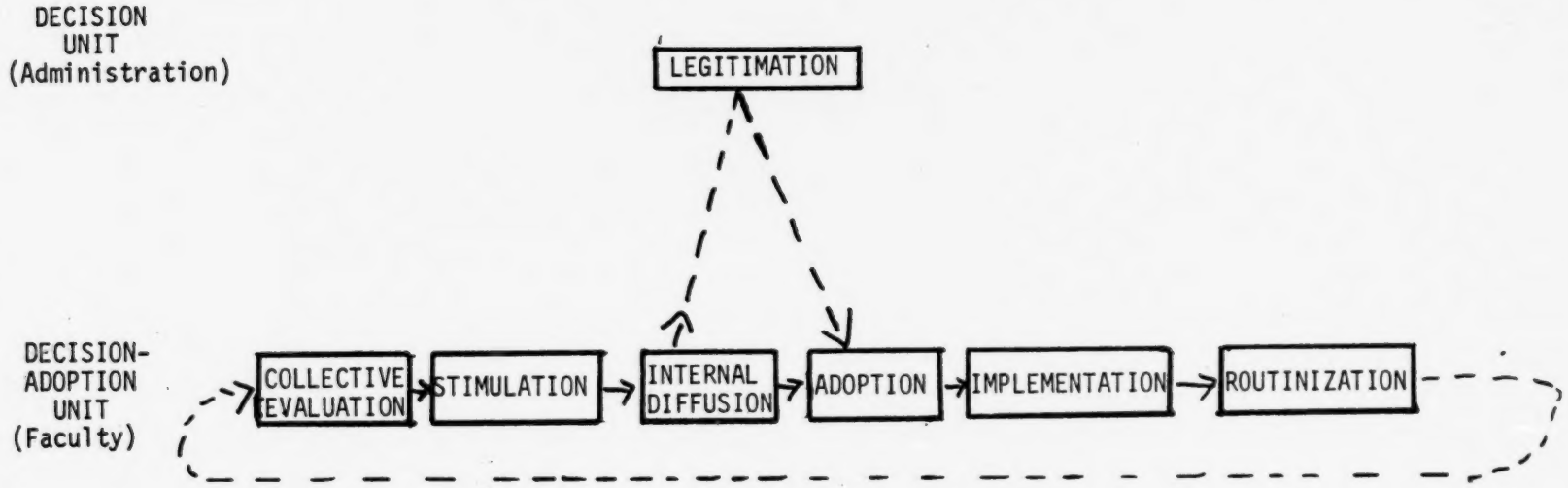

Figure 2.2

Legitimation involves the necessary sanctioning of certain innovations prior to implementation by formal representatives of the organization who have the organizationally-related authority to review decisions. Implicit in legitimation is that faculty members are able to determine which types of changes and suggestions must be granted formal approval at higher organizational levels. Effective legitimation requires meetings between faculty representatives and administrators for the presentation of technical core proposals. Legitimation reflects an upward communication of information and new ideas and downward communication from the administration regarding acceptance, rejection, and suggested modifications of faculty proposals. We should stress, however, that many collective innovations do not require legitimation at higher organizational levels.

After legitimation, collective decision subprocesses are identical to the final stages of the authority process. Adoption of collective decisions is, however, potentially greater than authority decisions because members of the adopting unit are also members of the decision unit. Also, adopting unit members participate explicityl in planning activities to a greater extent than they do in authority decision processes. Implementation is facilitated to the extent that the faculty, in addition to the administration, has anticipated potential discontinuities between ongoing organizational procedures and the new program. As in the case of authority decisions, routinization permits continuing collective evaluation, reflecting the circular nature of the decision process.

The collective decision process differs from the authority process in a number of ways. First, evaluation and solution generation in authority decisions are initiated and controlled at the top of the organizational hierarchy. Though technical core members may participate in these activities, they have little discretion or control over these functions. In the collective process, faculty members initiate and control evaluation and stimulation partly independent of their administrative superordinates. Second, authority decisions primarily involve downward vertical communication while the collective process employs both horizontal and upward vertical communication. Third, in the authority process, the adopting unit is different than the decision unit. Though certain collective decisions must be sanctioned by superiors, the adopting unit members also assume joint decision unit functions. Next--though this is not necessarily reflected in the models presented above--adoption probably occurs at an earlier stage in collective than in authority processes. In the former case, some minimal degree of acceptance of a new program must occur before the idea is communicated to the administration. In the latter case, adoption cannot begin until the proposal is communicated downward.

In this study we hypothesized that these differences, and others,

would not prevent the simultaneous co-existence of both authority and collective processes in school organizations. We assumed at the outset that many organizations do in fact exhibit multiple decision structures and processes. We also recognized that collective decision structures may exist and operate in competition with the authority structure and may be associated with power conflicts, inefficiency, and low morale, viz., the classical formal/informal organization conflict. However, we stress the point that our collective decision model was consciously designed to complement authority decision processes and to operate within the boundaries of the ongoing authority structure. For example, it provides that faculty recommendations for change are communicated to the principal and the central office for formal sanctioning and approval when appropriate (see Chapter III).

In conclusion, our major objective in designing the SF-PS-CD intervention was to install or reinforce existing complementary dual decision structures in elementary schools. We saw survey feedback and problem solving procedures as are opportunity to increase the viability of the superimposed collective process. Survey feedback initiates collective evaluation and problem solving facilitates stimulation. We expected that the SF-PS-CD intervention would increase organizational effectiveness and favorably change teacher work attitudes. Multiple decision structures would provide for the organizational flexibility necessary for adaptation to an uncertain environment. Duncan's (1972) research provided us with major support for this generalization. His results show that effective organizational subunits implement two relatively distinct structures in responding to routine versus non-routine decisions; less effective subunits tend to implement the same general structure in responding to both types of decision situations. Finally, the selective implementation of different decision processes which vary in degree of faculty participation would have functional consequences for teacher satisfaction, enthusiasm for the school system, attitudes toward administrators, and acceptance of change (Bridges, 1964, 1967; Chase, 1952).

CHAPTER III

THE SF-PS-CD PROGRAM: ADMINISTRATIVE AND SUBSTANTIVE ASPECTS

The purpose of this chapter is to present in some detail the SF-PS-CD strategy we tested in this study. As indicated in the previous chapter, our approach is somewhat atypical, especially with its heavier emphasis in group work on "facts" than on feelings, on tasks than on social-emotional development. As such, it differs from other OD approaches in a number of ways.

To clarify some of these distinctions, we first consider the initiation of SF-PS-CD within the school setting. Included are discussions of the organizational climate and structure for planned OD. We present some additional thinking behind the process and outline program administrative arrangements.

Given this general overview, we then turn our attention to the substantive aspects of the feedback, problem solving, and action stages of the program. This latter section focuses on the operational aspects of SF-PS-CD in terms of the superimposed complementary collective decision model. The intervention as described in this section constitutes the major experimental treatment investigated in the study.

Initiation: Installing the SF-PS-CD Process and Developing the Climate and Structure for Improvement

The SF-PS-CD program begins with the establishment of an organizational climate and personal commitment for development. Climate setting is based on the principle of involvement of individuals within the schools in setting shared development goals and in defining a method of working together at various organization levels to achieve these goals. We assumed that when the needs and goals of the individual coalesce with those of the organization, a foundation for cooperative effort has been established (Argyris, 1962).

Research has shown that people at various levels of an organization can share a sense of progress if they are working together toward common goals (Watson, 1967, pp. 22-23). In the SF-PS-CD program, the sense of involvement and commitment to change emerges as individuals from different levels of the school system participate in planning and carrying

out each step of the process. Through planning individuals can begin to develop a stake in changes and improvements by contributing directly to a program which they themselves implement to foster more productive and satisfying work relationships (Lawrence and Lorsch, 1969, pp. 19-21).

The effectiveness of any OD program depends on proper initiation of change processes. The strategy we employed was undertaken with the knowledge and consent of key staff members at all levels of the cooperating school district (see Appendix A).

We began the program first by obtaining sanction and legitimation of its activities from the district's top formal leader (superintendent). Personnel at the district and school levels were then involved immediately and on a voluntary basis in the initial planning stages (Bennis and Schien, 1965). This was accomplished through the formation and operations of three program administrative agencies: Policy Committee, Review Committee, and Program Groups. These groups were established to create the potential for complementary collective decision making in the schools. In effect, acting in concert they superimposed a collective decision making configuration over the existing authority structure of the school and school system.

The general functions and composition of each group are outlined in Table 3.1.

TABLE 3.1

ADMINISTRATIVE COMPONENT OF THE PROGRAM: COMPLEMENTARY COLLECTIVE DECISION STRUCTURE

Group	Functions	Composition
Policy Committee (District Level)	1. To formulate specific program policies and objectives. 2. To monitor and review all phases of the program. 3. To respond to questions, suggestions, and recommendations of Program Groups arising out of SF-PS sessions. 4. To sanction and suggest changes and innovations emerging from SF-PS sessions in the Program Groups.	Superintendent Principal Program Leader Consultants

TABLE 3.1--Continued

Group	Functions	Composition
Review Committee (School level)	1. To plan and schedule survey administration, feedback and problem solving meetings. 2. To approve proposed changes and innovations arising out of SF-PS sessions in Program Group. 3. To explain why proposals for change cannot be approved and to suggest modifications of proposals for further consideration. 4. To act as a clearinghouse for upward communication from program leaders to the Policy Committee. 5. To facilitate downward communication from the Policy Committee to Program Groups on any proposed changes in, or explanations for, existing top level policies, programs, procedures, thinking, and action.	Principal Program Leader Program Secretary Principal Designatee
Program Groups (School/ Departmental Level)	1. To interpret survey results for their own group. 2. To identify the group's key problems and needs in getting the work done efficiently and effectively. 3. To diagnose the basic reasons and causes underlying work problems. 4. To determine what action can be taken at the school level in solving problems and meeting needs.	Program Leader Secretary Faculty of the School

TABLE 3.1--Continued

Group	Functions	Composition
	5. To communicate to the Review and/or Policy Committee (through the program leader) the group's thinking, suggestions, and recommendations regarding alternative proposals for solving problems and meeting needs.	
	6. To obtain from the Review and/or Policy Committee (through the program leader) reasons and explanations for existing top level policies, programs, procedures, thinking, and action.	

A basic consideration in establishing these hierarchically-related groups was the need for effective vertical communication. Survey results are first perused by the Review Committee and afterwards delegated down to the Program Group for analysis and action. Teachers in the group then begin to identify problems and needs, generate possible solutions, and make recommendations or proposals for action. This information is refferred back up the line to the Review Committee in written form.

The Review Committee responds directly to proposals for change by granting formal approval or by explaining why the recommendations cannot be accepted in their present form. Revised recommendations may then be developed in the Program Group, reconsidered by the Review Committee, or, in some instances, sent further up the line to the Policy Committee for top administration consideration and approval. Similarily, appropriate downward communication from these Committees either sanctions recommended changes or provides reasons and explanations to the Program Group for the failure to do so.

Figure 3.1 represents the formal SF-PS-CD communication and action network.

In this OD process, the program leaders serve as key members on all three administrative committees. As such, they serve as central persons in maintaining both the lateral and vertical communication network.

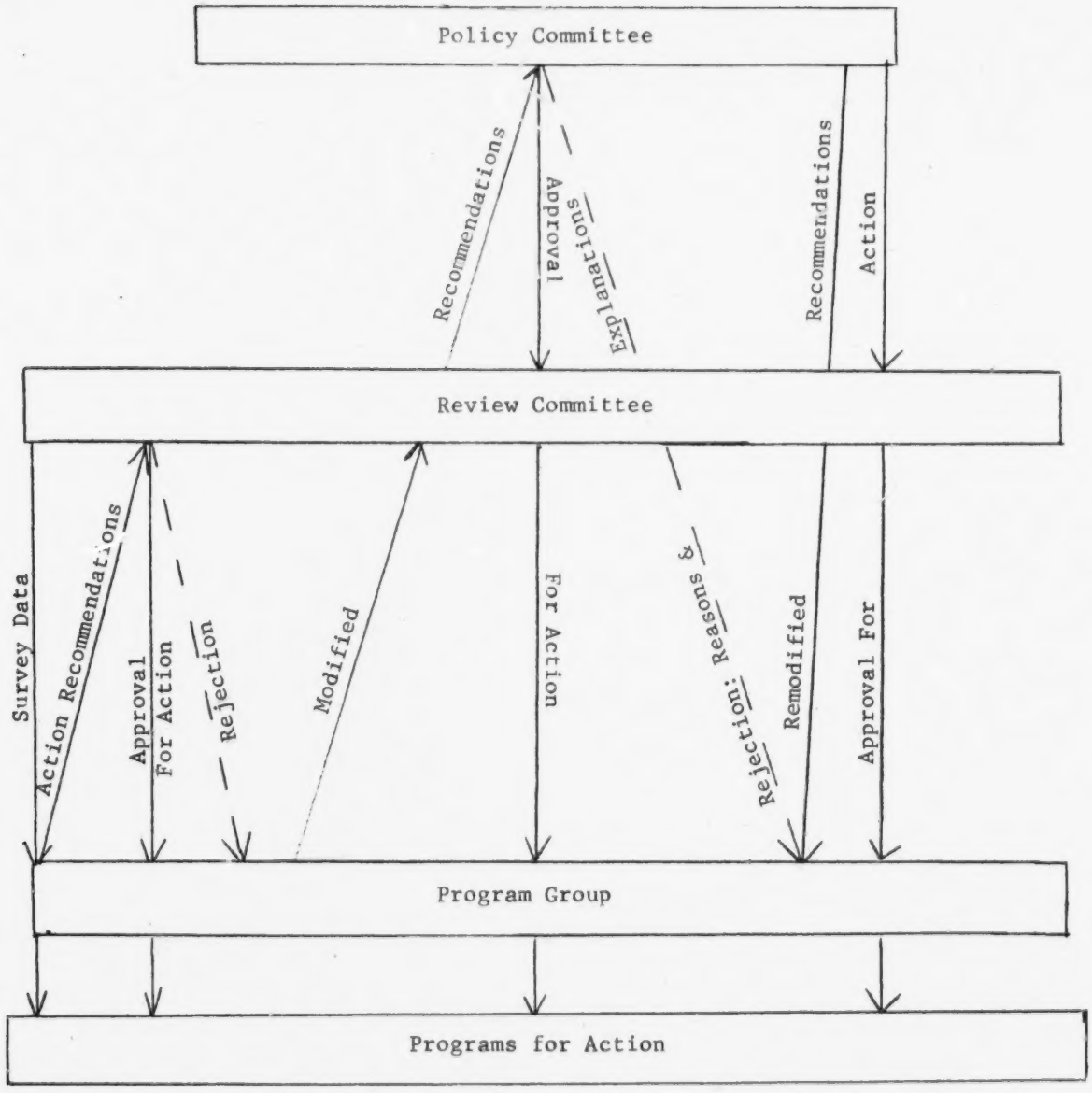

Figure 3.1--SF-PS Communication
and Action Network

To enact this role effectively they are provided an intensive five-day training experience on survey feed-back procedures, the problem solving process, and problems and principles of effective communication [especially those related to hierarchical structure, school ecological impediments, coding discrepancies, and aversions to threat (see Erickson and Pedersen, 1967)].

In the leadership training sessions, special emphasis is placed on developing skills in obtaining the ideas and suggestions of all teachers in the Program Group. The leaders are also instructed to encourage the teachers to think in terms of group rather than individual problems and solutions, use job titles and organization functions rather than names in analyzing problems, and withhold evaluation of ideas until a number of alternatives have been generated and discussed (Maier and Hoffman, 1964). The objective is to encourage discussion and analysis within a clearly defined and relatively impersonal framework in which the teachers have the capacity to make decisions and recommendations and the authority to take action on identified problems and needs (Becker and Baloff, 1969).

Evaluation: Creating Awareness, Understanding, and Acceptance of Organization Problems and Needs

To further enhance the climate and commitment to development, the SF-PS-CD process incorporates data and procedures designed to be sufficiently fact-based and impersonal to enable group members to identify their problems and needs and generate solutions with a minimum of personal threat and anxiety. Information is obtained on teacher opinions and attitudes toward key aspects of their work environment. We utilized a standardized questionnaire for collecting these data, whereas in previous SF-PS strategies work groups generally have developed some or all of their own survey instruments.

The questionnaire used in this study measures teacher attitudes toward fourteen key dimensions. These include:

A. General Administration

1. Administrative Practices
2. Professional Work Load
3. Non-Professional Work Load
4. Materials and Equipment
5. Buildings and Facilities

B. Educational Program

6. Educational Effectiveness
7. Evaluation of Students
8. Specialized Services

C. Interpersonal Relations

9. School-Community Relations
10. Principal Relations
11. Colleague Relations

D. Career Fulfillment

12. Voice in Educational Program
13. Performance and Development
14. Financial Incentives
15. Reactions to Survey

By means of conference techniques and graphic methods, program leaders report-back survey results for their own Program Groups. The objective is to sensitize the teachers to their own school problems and needs in the areas of task accomplishment, internal integration, and mutual adaptation of the school to its environment (Miles, et al., 1969). Program leaders are trained in the use of School Survey Program: Feedback and Problem Solving Guide in conducting the SF-PS sessions (see Appendix B).

The use of a standardized questionnaire enables Program Groups to compare their scores with those compiled from other similar groups. As Miles and his colleagues have observed, during the feedback meetings individual teachers begin to compare their own perceptions with those of their peers as expressed through group scores of measured opinions and attitudes. Personal perceptions may then be either corroborated ("Yes, that's the way it is") or disconfirmed ("This is certainly a surprise to me"). The teachers are encouraged to comment and speculate on the data. At this point the program leader attempts to uncover any differences in the perceptions and attitudes of the teachers. The objective is to arrive at a consensus regarding problems and needs of the school as perceived by its faculty.

As problems are identified and discussed and as member sensitization to needs increases, the way is paved for constructive inquiry: Why do we as a colleague group feel the way we do? What are the basic reasons and causes underlying our problems? Why are certain attitudes in this school less favorable than those in other comparable schools? What could we do collectively to solve or alleviate our identified problems and meet our needs?

Stimulation: Providing for Problem Analysis and Solution Generation

After problems and needs have been identified, program leaders are trained to guide the group toward more precise definitions and specifications. Problems are first broken down into component sub-problems. Afterwards each sub-problem is analyzed to identify causal forces and factors.

At all stages of the analysis, deliberate efforts are made by the program leaders to forestall or minimize discussions of subjective elements of group interaction (the "here and now") such as those which are the point of focus in traditional T-group or sensitivity training. No conscious interventions are made by the program leader to encourage social-emotional development at the intrapersonal, interpersonal, or group levels. The teachers are encouraged by the leader to be "objective" and "factual:" to approach problems in terms of situations, not behaviors or personalities, in terms of past difficulties to be overcome and future improvement goals to be achieved.

Five specific "ground rules" were developed to guide the progress of feedback meetings. These were:

1. Your suggestions: An attempt is made to have the total group contribute to the discussion. Initially, stress is placed on problem definition and specification; the generation of solutions is deferred. Suggestions and opinions are solicited regarding whether the survey results reveal problems and, if so specifically what they are.

2. Group feels . . .: Teachers are encouraged to say "Perhaps the group feels this way because . . ." rather than "I feel so because . . ." to keep the discussion on a less personal level. This rule was designed to help the teachers express their thoughts as members of the group rather than as individuals.

3. Titles not names: As discussions are kept at the "objective" and "factual" level, the emphasis is on organizational roles and relationships rather than on personal and interpersonal problems. To facilitate this goal, group members are encouraged to use job titles or organizational functions to be performed rather than names.

4. No leader evaluation: The program leader is encouraged not to evaluate member contributions. The objective here is to have all teachers contribute their ideas and opinions without the feeling that their statements will be judged by the leader as "good" or "bad".

5. Minutes, but no names: The group secretary (either elected by the teachers or appointed by the program leader) records the ideas expressed during the meetings but does not mention any names. Individual teachers or a subcommittee of the group are invited to review the minutes later to determine whether they accurately reflect the group's thinking.

The heavy-task orientation of the discussions, coupled with the application of these basic rules, is designed to reduce member feelings of threat and anxiety. To support open and free discussion the meetings are not conducted by the formal school leader (the principal), supervisors, or staff specialists nor are administrators present in the room when feedback and problem solving sessions are held. We anticipated that Program Groups led by an informal leader whom they appointed to the task would result in more productive discussions in group problem solving (Bridges, 1969).

As members begin to specify the nature of school problems and needs, implicit or explicit change goals begin to emerge. At this stage, the group is encouraged to generate possible solutions to problems and to identify new alternatives and innovations. Group problem solving sessions are conducted in the same manner as the feedback sessions with the addition of a number of "ground rules" governing group activities. These include:

1. Sub-problem identification: The objective is to identify and delineate problems and to break these down into their key components. The leader is responsible for moving the group from the symptom to the problem to the subproblem definition.

2. Basic reasons and causes: In an effort to identify underlying organizational dynamics, each subproblem is analyzed for its specific reasons and causes.

3. Multiple alternatives: The group is encouraged to identify a number of possible solutions for each problem rather than arriving at just one or two remedies.

4. Decisions later: As ideas for improvement are generated, it is understood that solutions will not be evaluated immediately. Final evaluation of alternatives and selection of the "best" solution is postponed until alternatives have been carefully examined.

5. Strictly financial remedies: The group is discouraged from generating only those solutions which simply require "more money." Attention is directed also toward those proposals which involve a more efficient use of existing resources. As part of the process, the group is encouraged to engage in a "cost-benefit analysis" of proposed remedies.

6. Positive statements: The teachers are asked to word problems and offer suggestions in the form of positive statements. For example: "Communication between the school board and the faculty can be improved by . . ." is preferred to "The school board doesn't let us know about. . . ."

7. Action to take: After alternative solutions are evaluated, the group selects what it perceives to be the best course of action. This includes steps to be taken at the school level within the purview of faculty authority as well as those recommendations to be communicated up the line to the Review Committee for approval.

8. Schedule: A timetable is kept of the action program initiated for each problem analyzed. This includes starting dates, interim progress reports, and completion dates.

9. Follow-up on results: Periodically, each problem area is reviewed by the program leader or the group to determine what has been done, how well solutions have been implemented, and overall results.

As these guidelines are followed for analyzing each subproblem, the group decides on action to be taken and recommendations to be made to the Review Committee for consideration and approval. Assignments are specified for group members including who is to do what by when. In this manner, the original survey findings are translated into programs of action and recommendations for improvement. Relevant problem solving information is documented on the SF-PS forms shown in Figure 3.2. In the process, all teachers can help shape actions and recommendations by contributing their ideas and joint efforts for organizational improvement. The emphasis is on effective vertical communication as well as full faculty participation in collective decision making as well as technical core change initiation.

Figure 3.2

SCHOOL SURVEY FEEDBACK AND PROBLEM SOLVING--RESULTS

School_____ Program Leader_____ Date_____

The Problem-- and its Key Aspects	Basic Reasons & Causes	Action To Take				Schedule		Follow up on Results
		By the Faculty		Recommendations to Others				
		Who	What	Who	What	Start	Finish	

Internal Diffusion and Legitimation: Providing for Communication and Sanctioning of Recommendations

In elementary schools with a single Program Group, all faculty members are made aware of the identified problem and proposed solutions by this stage of the OD process. The critical activity after problem-solving is communicating recommendations to the administration for approval and action. This is accomplished by the program leader who brings the Program Group's proposals to the attention of the Review Committee. At Review Committee meetings problem areas, probable reasons and causes, and recommended actions are presented and discussed. The objective is to provide the Review Committee with well thought-out and carefully prepared proposals for solving identified school problems and needs. As this step is accomplished, the Committee's confidence in the SF-PS-CD process should increase and administrators should become more encouraged to participate in further program activities.

Recommendations are either approved, modified, or rejected at the Review Committee level. In some instances suggestions which have district-wide implications are sent up to the Policy Committee for consideration. In the case of rejection at the Review Committee level, the principal is encouraged to explain why the proposal is unacceptable and how it might be modified to increase its feasibility. Program leaders are then responsible for communicating the reasons for rejection and proposed modifications to their Program Groups. In some cases, the recommendations can be re-formulated on the basis of new information provided by the principals and others in the school district and then resubmitted by the Program Group in revised form.

Adoption-Implementation-Routinization: Providing for Action and Reviewing Results

As various recommendations are approved by the Review Committee and/or policy Committee, new programs and procedures are implemented by the teachers in the schools. We expected that the execution of action programs would be facilitated by the process of intragroup cooperation and personal and group commitment. Implementation also is facilitated during the problem solving sessions as individual teachers are assigned and accept responsibility for carrying out specified action programs. In some cases, the program leader may assume the task of implementing certain changes; in other cases, the principal may offer to initiate particular programs. As areas of responsibility are defined and delineated, the potential for change increases.

Action programs also are facilitated as organizational members share in their development. As teachers participate in group problem solving activities, their satisfaction with and acceptance of proposed solutions should increase (Rogers and Shoemaker, 1971). Increased awareness of impending changes, coupled with a commitment to and influence over the decision to make these changes, tends to increase teacher willingness to implement them. Group pressures and mutual expectations reinforce commitment to new programs and procedures.

An integral part of the SF-PS-CD strategy is the follow-up on group recommendations. The program leader, or a specially commissioned subcommittee of the Program Group, takes the responsibility for periodically reviewing the progress made on solving problems and meeting needs. The program leader or subcommittee evaluates the extent to which recommendations have been implemented successfully and the degree to which new programs or procedures have alleviated problems and met needs. Failure to solve a particular problem indicates that the area must be singled out for further intensive analysis. A special task force may be appointed to deal with unresolved or residual problems.

Failure to deal effectively with problems is an indication that a SF-PS-CD process may not be working effectively. In this case the leader and Program Group evaluate the entire process in an attempt to specify weaknesses at various stages. Some potential causes for failure might include (1) breakdowns in the vertical communication network, (2) failure to conduct problem solving meetings according to established guidelines, and (3) poor problem or subproblem identification and delineation.

We expected that as teachers participate in the problem solving process and recommendations are implemented, a generally high level of satisfaction with the program would be generated. Teachers would have internalized many of the problem solving guidelines and the vertical communication linkage would become an ongoing part of the organization's structure. As such, the SF-PS-CD program itself was designed to constitute a self-renewing process which contributes to improved organizational problem solving and brings about greater faculty participation in decision making.

CHAPTER IV

SURVEY FEEDBACK-PROBLEM SOLVING-COLLECTIVE DECISION THEORY

The survey feedback-problem solving-collective decision intervention (SF-PS-CD) was formulated on the basis of a large body of theoretical and empirical research.[1] The major purpose of this chapter is to present the overall rationale and specific theoretical model undergirding our organization development strategy. We hypothesize specific factors to account for the effects of the SF-PS-CD intervention and cite literature supportive of proposed relationships. Our model considers the effects of program inputs in terms of seven collective decision making subprocesses: collective evaluation, stimulation, internal diffusion, legitimation, adoption, implementation, and routinization. To reflect more adequately the consequences of survey feedback, the evaluation subprocess is broken down into four additional stages: data collection, data feedback, data discussion, and structured evluation. Program effects are analyzed at the organizational, natural work group, and individual levels of analysis.

The theoretical model involves a complex network of causal relations which intervene between the SF-PS-CD intervention (the independent variable) and dependent variables. We adopted an abbreviated version of this macromodel to generate the hypotheses for our field experiment. Numerous intervening relationships, though not subjected to empirical testing in this study, set the stage for a number of predictions which suggest further research in educational organizations. For our present purposes, the inclusion of these intervening variables should provide the reader with greater insight into not only SF-PS-CD theory but also the operational aspects of the program.

The model presented in Figure 4.1 builds on the work of Miles, Hornstein, Callahan, Calder, and Schiavo (1969, see "Factors Hypothesized to Account for the Effects of Survey Feedback in Organizations," p. 460). To the extent that some of our SF-PS inputs are similar to those used in the Miles, et al. action-research program, certain of our factors at the evalution and stimulation stages are based on their conceptualization. The

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[1]Sections of this Chapter were adapted from Robert A. Cooke, "Complementary Collective Decision Structures for Educational Systems," 1972.

Figure 4.1

The Survey Feedback–Problem Solving–Col

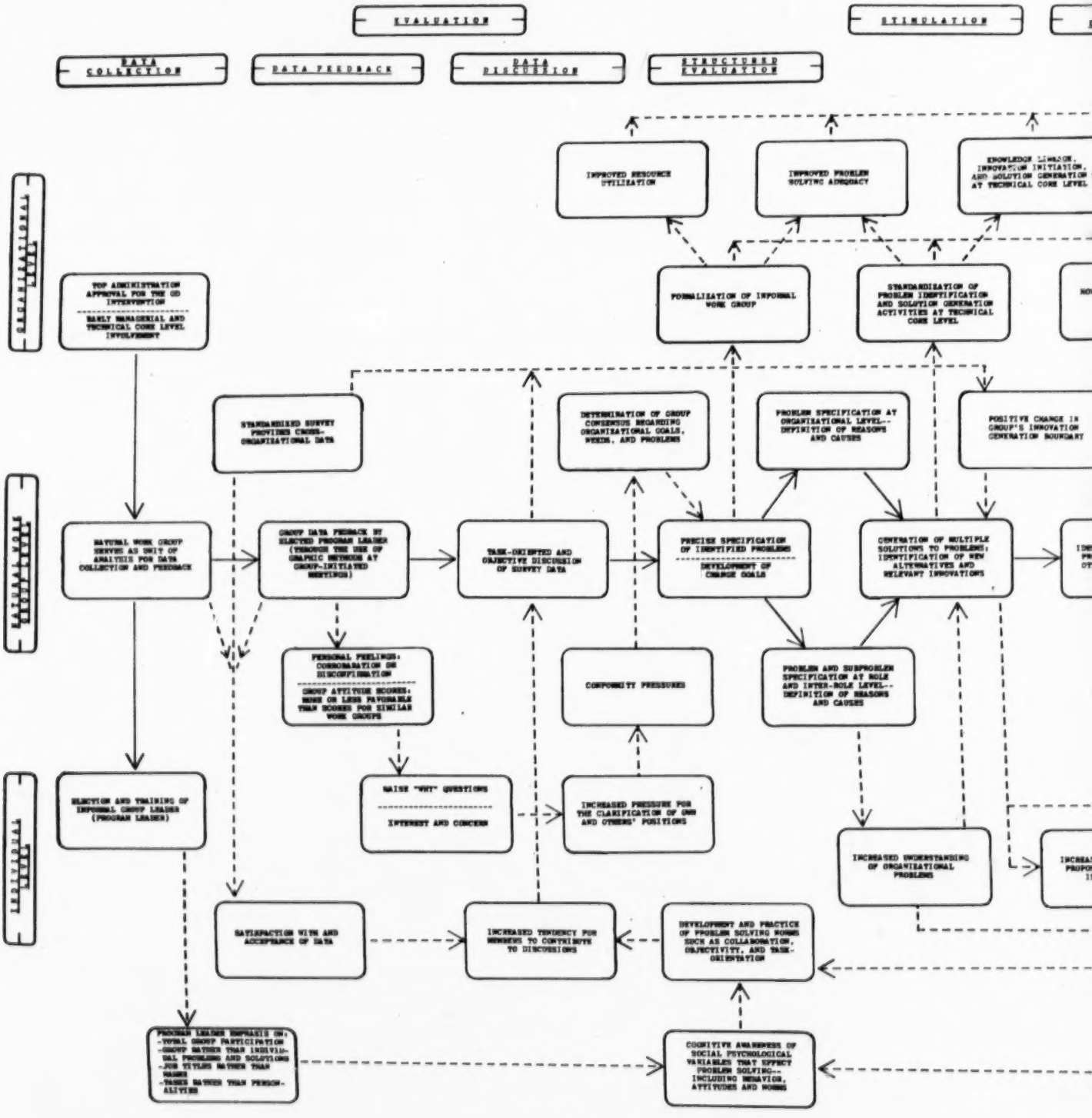
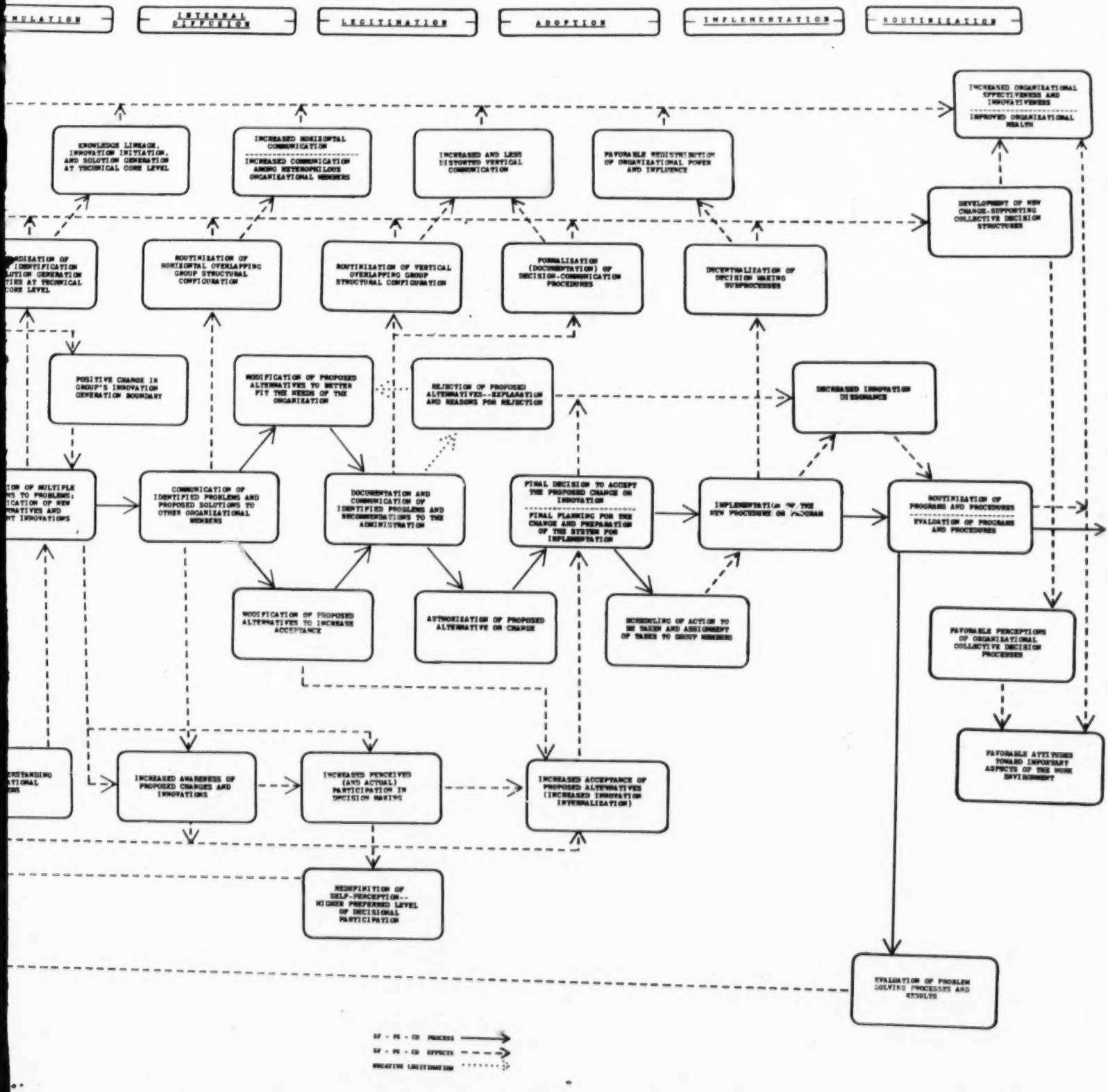

EVALUATION
STIMULATION
DATA COLLECTION
DATA FEEDBACK
DATA DISCUSSION
STRUCTURED EVALUATION
TOP ADMINISTRATION APPROVAL FOR THE OD INTERVENTION
EARLY MANAGERIAL AND TECHNICAL CORE LEVEL INVOLVEMENT
STANDARDIZED SURVEY PROVIDES CROSS-ORGANIZATIONAL DATA
NATURAL WORK GROUP SERVES AS UNIT OF ANALYSIS FOR DATA COLLECTION AND FEEDBACK
GROUP DATA FEEDBACK BY ELECTED PROGRAM LEADER (THROUGH THE USE OF GRAPHIC METHODS AT GROUP-INITIATED MEETINGS)
PERSONAL FEELINGS: CORROBORATION OR DISCONFIRMATION
GROUP ATTITUDE SCORES: MORE OR LESS FAVORABLE THAN SCORES FOR SIMILAR WORK GROUPS
SELECTION AND TRAINING OF INFORMAL GROUP LEADER (PROGRAM LEADER)
SATISFACTION WITH AND ACCEPTANCE OF DATA
PROGRAM LEADER EMPHASIS ON: -TOTAL GROUP PARTICIPATION -GROUP RATHER THAN INDIVIDUAL PROBLEMS AND SOLUTIONS -JOB TITLES RATHER THAN NAMES -TASKS RATHER THAN PERSONALITIES
TASK-ORIENTED AND OBJECTIVE DISCUSSION OF SURVEY DATA
RAISE "WHY" QUESTIONS
INTEREST AND CONCERN
INCREASED TENDENCY FOR MEMBERS TO CONTRIBUTE TO DISCUSSIONS
DETERMINATION OF GROUP CONSENSUS REGARDING ORGANIZATIONAL GOALS, NEEDS, AND PROBLEMS
CONFORMITY PRESSURES
INCREASED PRESSURE FOR THE CLARIFICATION OF OWN AND OTHERS' POSITIONS
PRECISE SPECIFICATION OF IDENTIFIED PROBLEMS
DEVELOPMENT OF CHANGE GOALS
PROBLEM SPECIFICATION AT ORGANIZATIONAL LEVEL--DEFINITION OF REASONS AND CAUSES
PROBLEM AND SUBPROBLEM SPECIFICATION AT ROLE AND INTER-ROLE LEVEL--DEFINITION OF REASONS AND CAUSES
DEVELOPMENT AND PRACTICE OF PROBLEM SOLVING NORMS SUCH AS COLLABORATION, OBJECTIVITY, AND TASK-ORIENTATION
COGNITIVE AWARENESS OF SOCIAL PSYCHOLOGICAL VARIABLES THAT EFFECT PROBLEM SOLVING--INCLUDING BEHAVIOR, ATTITUDES AND NORMS
GENERATION OF MULTIPLE SOLUTIONS TO PROBLEMS; IDENTIFICATION OF NEW ALTERNATIVES AND RELEVANT INNOVATIONS
FORMALIZATION OF INFORMAL WORK GROUP
STANDARDIZATION OF PROBLEM IDENTIFICATION AND SOLUTION GENERATION ACTIVITIES AT TECHNICAL CORE LEVEL
IMPROVED RESOURCE UTILIZATION
IMPROVED PROBLEM SOLVING ADEQUACY
POSITIVE CHANGE IN GROUP'S INNOVATION GENERATION BOUNDARY
INCREASED UNDERSTANDING OF ORGANIZATIONAL PROBLEMS

Figure 4.1

em Solving–Collective Decision Process


MULATION
INTERNAL DIFFUSION
LEGITIMATION
ADOPTION
IMPLEMENTATION
ROUTINIZATION
KNOWLEDGE LINKAGE, INNOVATION INITIATION, AND SOLUTION GENERATION AT TECHNICAL CORE LEVEL
INCREASED HORIZONTAL COMMUNICATION
INCREASED COMMUNICATION AMONG HETEROPHILOUS ORGANIZATIONAL MEMBERS
INCREASED AND LESS DISTORTED VERTICAL COMMUNICATION
FAVORABLE REDISTRIBUTION OF ORGANIZATIONAL POWER AND INFLUENCE
INCREASED ORGANIZATIONAL EFFECTIVENESS AND INNOVATIVENESS
IMPROVED ORGANIZATIONAL HEALTH
DEVELOPMENT OF NEW CHANGE-SUPPORTING COLLECTIVE DECISION STRUCTURES
ROUTINIZATION OF HORIZONTAL OVERLAPPING GROUP STRUCTURAL CONFIGURATION
ROUTINIZATION OF VERTICAL OVERLAPPING GROUP STRUCTURAL CONFIGURATION
FORMALIZATION (DOCUMENTATION) OF DECISION-COMMUNICATION PROCEDURES
DECENTRALIZATION OF DECISION MAKING SUBPROCESSES
POSITIVE CHANGE IN GROUP'S INNOVATION GENERATION BOUNDARY
MODIFICATION OF PROPOSED ALTERNATIVES TO BETTER FIT THE NEEDS OF THE ORGANIZATION
REJECTION OF PROPOSED ALTERNATIVES--EXPLANATION AND REASONS FOR REJECTION
INCREASED INNOVATION DISSONANCE
COMMUNICATION OF IDENTIFIED PROBLEMS AND PROPOSED SOLUTIONS TO OTHER ORGANIZATIONAL MEMBERS
DOCUMENTATION AND COMMUNICATION OF IDENTIFIED PROBLEMS AND RECOMMENDATIONS TO THE ADMINISTRATION
FINAL DECISION TO ACCEPT THE PROPOSED CHANGE OR INNOVATION
FINAL PLANNING FOR THE CHANGE AND PREPARATION OF THE SYSTEM FOR IMPLEMENTATION
ROUTINIZATION OF PROGRAMS AND PROCEDURES
EVALUATION OF PROGRAMS AND PROCEDURES
MODIFICATION OF PROPOSED ALTERNATIVES TO INCREASE ACCEPTANCE
AUTHORIZATION OF PROPOSED ALTERNATIVE OR CHANGE
SCHEDULING OF ACTION TO BE TAKEN AND ASSIGNMENT OF TASKS TO GROUP MEMBERS
FAVORABLE PERCEPTIONS OF ORGANIZATIONAL COLLECTIVE DECISION PROCESSES
FAVORABLE ATTITUDES TOWARD IMPORTANT ASPECTS OF THE WORK ENVIRONMENT
INCREASED AWARENESS OF PROPOSED CHANGES AND INNOVATIONS
INCREASED PERCEIVED (AND ACTUAL) PARTICIPATION IN DECISION MAKING
INCREASED ACCEPTANCE OF PROPOSED ALTERNATIVES (INCREASED INNOVATION INTERNALIZATION)
REDEFINITION OF SELF-PERCEPTION--HIGHER PREFERRED LEVEL OF DECISIONAL PARTICIPATION
EVALUATION OF PROBLEM SOLVING PROCESSES AND RESULTS

present model differs from the Miles et al., schemata in that it (1) represents program consequences at three levels of analysis and (2) places greater emphasis on organizational change subprocesses which follow stimulation (problem solving and solution generation). The extended model also delineates certain characteristics of the change-supporting collective decision making structures not explicated in the Miles et al. model.

Theoretical Basis for the Model

The SF-PS-CD strategy is initiated by the external change agents in collaboration with both the formal and informal leaders of the client organization. Point of entry is at the top of the organizational hierarchy, but elected natural group leaders at the technical core level are quickly brought into the program's early planning stages. All levels of the school district organization participate in the preliminaries to develop an understanding, sanction, and support of subsequent program activities. As such, the change program is legitimated without imposition on subordinates, thus insuring their desired voluntary commitment (Bennis and Schein, 1965).

The target group and unit of analysis for data feedback and discussion is the faculty or natural work group of the school. Feedback at the group, rather than the individual, level is instrumental because of the: (1) greater potential for wider experienced-based contributions to problem solving; (2) pooling and exchange of information among faculty members which facilitates solution generation; (3) general recognition by all group members of shared problems; (4) crystallization of faculty expectations regarding the behavior of superordinates; and (5) reciprocal pressures arising out mutual member expectations to implement decisions agreed upon by the group (Mann and Likert, 1955). Membership in the Program Group is based on the findings and recommendations of Bridges (1967). Data collection, survey feedback, and problem solving are carried out in natural work groups rather than in family groups. As will be noted below, hierarchically differentiated family groups (consisting of a supervisor and his subordinates whose activities are related in some meaningful manner) may create barriers for subordinates in open communication and creative problem solving. The natural work group approach we employed is partly consistent with Alderfer and Holbrook's (1972) peer group-intergroup design for survey feedback. Both the natural work group strategy and the peer group-intergroup model provide for group discussion in the absence of formal organizational authority figures.

Evaluation: Data Collection

The intervention begins with the formation of the Policy Committee, Review Committee, and Program Group (see Chapter III). Collective decision processes are initiated at the natural work group level with the administration of the work attitudes survey instrument. An 120-item inventory is circulated among the faculty by an informal group leader, a teacher previously elected to this role by his peers at each school. At the data collection stage, the emphasis is on confidentiality--no attempt is made to identify individual respondents. We expected that the preservation of anonymity would minimize any perceived threat and maximize the veridicality of faculty response. The questionnaires are scored by the external change agents and the results profiled and returned to the program leaders. Although previous survey feedback programs have involved the clients in survey instrument construction, a standardized scale was used in this study. The use of a standardized questionnaire, although possibly decreasing perceived initial participation on the part of clients, has other functional consequences, particularly when a number of similar work groups or organizations are being studied simultaneously (Coughlan, 1966). The School Survey, which focuses on teacher attitudes and opinions toward various aspects of their work environment, was administered in seventeen elementary and junior high schools randomly assigned to the full SF-PS-CD treatment, survey feedback only, or control conditions. SF-PS-CD and SF only schools were provided with data for their own groups as well as the mean scores for all the schools surveyed, thus providing opportunities for inter-organizational comparisons. The program leader's presentation of cross-organizational scores increases the faculty's capacity to recognize problem areas through comparative analysis and focus on the most relevant issues. Additionally, survey data also facilitate the external agents' evaluation of the change strategy. Administration of the same instrument at the post-experimental phase reveals the direction and magnitude of any attitude changes in the treatment versus control schools.

Evaluation: Data Feedback

The teachers in the experimental schools vote as to whether they want the survey data feedback on a group basis. If they elect to continue the process, the faculty members initiate their own feedback session with Review Committee sanctioning. Group Leaders are trained in feedback procedures, and data are presented to their respective Program Groups in a meaningful manner through the use of graphs and charts. As the program leaders' competency and familiarity with the data increase, group satisfaction with and perceived utilization of the data should increase (Klein et al.). Data feedback presented orally during group meetings, in contrast to data feedback by written reports, also results in higher satisfaction with and perceived utilization of the information (Klein et al., p. 124). We expected that acceptance of

and satisfaction with the data would be greater when presented by the informal group leader than when presented by hierarchical superordinates, internal staff specialists, or the external change agents. Source credibility should increase to the extent to which informal leaders are more homophilous to their own groups than are "outsiders" (see Giffin's review, 1967). Finally, natural work groups receive feedback concerning their own school's scores in relation to overall scores for similar schools. Group members are more likely to be satisfied with and be able to utilize data for their individual schools rather than data for higher level or more inclusive groups (such as the entire school district).

We reasoned that method of data collection, the manner in which feedback is presented to the natural SF-PS groups, and the opportunity for cross-organizational analysis should result in teacher satisfaction with and acceptance of the data. As data is fed-back and teachers compare their own attitudes to the group means, their feelings will either be corroborated or disconfirmed (Miles et al., 1969). As the teachers compare their group's scores to the mean scores of similar schools, any discrepancies will become more apparent. The saliency of relatively favorable and unfavorable attitudes should stimulate "why" questions, lead to constructive inquiry, and specify important issues for group discussion and analysis.

Standardized surveys and cross-organizational analysis also play an important role in the decision sorting process. In organizations employing multiple decision structures, decision sorting mechanisms and procedures are needed to ensure that various problems are "assigned" to the proper individuals or groups for resolution. The appropriateness of the collective decision structure for particular decisions is a function of at least three factors: relevance, expertise, and authority. Faculty participation in collective decision making is optimal when those decisions the faculty is asked to make are perceived to be relevant by the faculty and when they possess the expertise and authority to make the decisions (see Bridges, 1967; Barnard, 1938; and Blake and Mouton, 1964).

The School Survey focuses on important dimensions of the teachers' work environment. If the feedback data indicate that the faculty's attitudes toward particular aspects of their environment are highly unfavorable, those factors are potentially the most relevant issues for collective problem solving. Preliminary data discussion allows the SF-PS-CD group to further gauge the importance and relevance of problem areas. In this manner, problems and decisions which are outside the teachers' "zone of indifference" are "selected" for collective decision making. As teachers concentrate on problems of consequence to them, their interest and concern should be high and faculty participation should be effective. Similarly, as the SF-PS-CD members direct attention to problems which they are competent to deal with, effectiveness should increase (Bridges, 1967; Tannenbaum and Massarik, 1950). Finally, the group must consider their authority and responsibility in terms of the alternate decision structures and the authority of superordinates. The functions of the Review Committee include the delineation and clarification of the Program Group's authority.

Evaluation: Data Discussion and Structured Evaluation

Group problem solving activities begin with an objective discussion of the comparative data. These discussion meetings are conducted by the elected informal program leader rather than by the principal or external agents. We hypothesized that group members would be less inhibited and constrained in the absence of the formal leader. Hierarchical differentiation in groups interferes with problem solving at both the problem specification and solution generation stages. A study by Bridges and Doyle indicated that hierarchically-differentiated groups (those composed of three teachers and their principal) exhibited less risk-taking and were less efficient and less productive than hierarchically-undifferentiated groups (those composed of four teachers) in solving the same problems (Bridges, 1967). Katz and Kahn generalize that:

> The peer group, especially without the presence of authority figures, can develop a warm, permissive atmosphere in which spontaneity is encouraged. People can not only contribute constructive suggestions but can express specific grievances or ventilate their feelings about things in general. (1966, p. 401)

They note, however, that "gripe sessions" can bring about dysfunctional consequences. The collective evaluation procedures we employed were structured to avoid negative organizational outcomes and produce constructive suggestions for positive change.

The training and orientation of the group leader is instrumental in bringing about positive problem solving activities. As described in the intervention section, the group leaders' training de-emphasized social development issues and focuses on objective and task-oriented problem solving techniques. In an early study, Maier (1950) found that groups with leaders trained in task-oriented discussion techniques generated more inventive solutions than groups with untrained leaders. As natural work group members interact during task-oriented sessions, the discussion focuses on group problems and, simultaneously, organizational role relations tend to improve (Mann, 1957).

At the data discussion stage, a number of factors operate to increase group member propensity to contribute to the discussion. First, the relatively objective and task-oriented nature of the SF-PS meetings tends to increase participation by reducing member anxiety. Satisfaction with and acceptance of the data also should result in higher participation. As the group focuses on relevant problems, interest and concern should increase, providing additional motivation for members to participate. Assuming that the Program Group meets with some success in solving problems and bringing about change, members will be more motivated to continue contributing to group activities. The quality of members' contributions increases as they become cognitively

aware of the social psychological variables which effect discussions and problem solving (Miles et al., p. 461). As group efforts become increasingly interesting and productive, members should develop and practice problem solving norms such as collaboration, objectivity, and task-orientation.

A major objective at the data discussion stage is the determination of group consensus regarding organizational goals and perceived problems. As the discussions progress, there should be an increased interest in the reasoning behind conflicting attitudes and increased pressure for the clarification of own and others' positions (Miles et al., p. 462). These pressures are reinforced by developing problem solving norms and increased confidence in the problem solving process. Group problem solving therefore is enhanced directly through the pooling of independent judgments and indirectly through "modifications produced by social influence" such as the pressure to clarify one's own ideas (Kelley and Thibaut, 1954).

Kelly and Thibaut note that there are pressures on individual group members to conform to majority opinions. Miles suggests that these conformity pressures have both functional and dysfunctional consequences in SF-PS processes:

> Uniformity is useful in some respects (e.g., when it encourages a common view of the immediate goals in front of the group, and so on). However, it can also tend to impoverish solution generation and eliminate creative conflict. (p. 462)

Group conformity pressures are possibly less powerful than certain social scientists have suggested. In the frequently cited Asch study (1956), 65 per cent of the subjects refused to yield to group pressures in spite of unanimous opposition; and 95 per cent refused to yield when one other person broke the unanimous block. Havelock notes that while this study indicates that some people do conform, the subjects in the Asch experiment ". . . seem to express a greater resilience and rationality than many reviewers have usually recognized (1969, p. 5-7). Furthermore, conformity in the SF-PS-CD Group might possibly be minimized as the team concentrates on problems which are relevant to them and which they feel competent to discuss.

Avoidance of conformity at the evaluation stage is important because the existence of varying perspectives and directions in the identification of problems among members offers the potential for creative problem solving.

> Different perspectives, when set in effective opposition to each other, can delay the premature acceptance of an obvious solution and contribute to turning a choice situation into a problem. A group may then be forced to search for alternative solutions which might better satisfy the requirements of the problem. . . . The joint resolution of such conflict by all members of the group leads to solutions of high quality which are well accepted by group members (Hoffman, Harburg, and Maier, 1962, p. 213).

Initial disagreement potentially can result in hard feelings among members rather than innovative solution generation or stimulation. It has been shown, however, that the program leader's perception of disagreement as a source of ideas or as a source of problems is critical in fostering innovative solutions and avoiding hard feelings (Maier and Hoffman, 1965). Our program leaders were trained, therefore, in the need for obtaining and respecting the ideas and attitudes of all group members regardless of their own or majority member positions.

Another objective at the collective evaluation stage is the precise specification of problems identified by the group. At this stage of the process group attitudes and problems perceived by the majority of members are documented and strong minority positions, if any, are noted. The formalized statement of perceived problems and the concomitant disequilibrium between perceived organizational objectives and the current situation lead to the development of implicit or explicit change goals. These change goals become more precise as problems are broken down into subproblems and suggestions for action are generated.

Our group leaders were trained to specify problems at the role, inter-role, and organizational levels. Each problem is then broken down into sub-problems; the basic reasons and causes associated with each problem are then analyzed. We stressed precise problem specification because, in many instances, the most critical aspect of problem solving and decision making activities seems to be the recognition and identification of the problem or need for a decision (Rubenstein and Haberstroh, 1966, p. 588). Precise sub-problem identification has been shown to lead to higher quality decisions in laboratory experiments (Maier and Maier, 1957). Precision in problem and sub-problem definition should increase group member understanding of organizational problems and facilitate solution generation and the eventual choice between suggested alternatives.

At the organizational level of analysis, the SF-PS-CD intervention should effect an increase in the formalization of the informal work group. Though faculties are often "organized" to receive downward communication in schools, they are less often sufficiently structured to facilitate intra-group interaction and upward communication. In alleviating this deficiency, our strategy was designed to move the faculty work group from relatively low to higher "orders of purpose". Mills (1967) has developed a paradigm of group formation based upon five cumulative orders of purpose through which groups progress in social-emotional and task development. These orders are concerned with: (1) The immediate gratification of personal and social needs of members through interaction; (2) the sustaining of contact and conditions permitting member gratification; (3) the pursuit of a collective goal; (4) self-determination for the group; and (5) growth in group capabilities and influence. [1] The present strategy was formulated to achieve this movement

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[1]For a more detailed description of this paradigm, the reader is referred to The Sociology of Small Groups by T. Mills. The Mills' paradigm has also been employed in educational change strategies by Coughlan and Zaltman (1972) in "Implementing the Change Team Concept."

by: (1) increasing interaction among faculty members; (2) providing for continued faculty interaction through the SF-PS meetings in conjunction with the collective decision structure; (3) allowing the group to develop collective change goals by defining organizational problems; (4) providing the potential for technical core initiated innovation; and (5) ensuring greater information input, developing new communication channels, and defining the boundaries of the group's authority.

In connection with progression to higher orders of purpose, the problem solving and decision making procedures of the faculty group should begin to reflect a higher degree of standardization. Collective faculty problem solving becomes more programmed as the group leader uses his training to conduct meetings according to the SF-PS guidelines. It has been noted frequently in the organization behavior literature that programmed activity and standardization often act to suppress innovation and restrain the organization from adapting to a dynamic environment (e.g., March and Simon, p. 185; Burns and Stalker, 1960). Though it may be true that educational organizations generically are already overly-standardized or overly-bureaucratized in some respects, there nevertheless may be a need for increased standardization of certain of their activities. The reasons for this stance are discussed below.

First, procedures for faculty problem solving and change initiation on a team basis are so inadequately specified in most schools that they are practically non-existent. The SF-PS-CD strategy prescribes a series of programmed activities for the faculty which are sufficiently flexible to be adapted to non-routine problems. The intervention procedures also permit modification of the SF-PS process as may be necessitated by the exigencies of a particular school's environment. Second, by standardizing collective problem solving activities, an alternative decision mechanism is added to the school's repetoire of "routine" performance programs. This implies that, at a higher level, the organization may now become more flexible and adaptive. Flexibility increases as organizational members increase their ability to implement different decision mechanisms for different types of problems. Third, we cannot assume as a matter of course that standardization in school procedures always caus rigidity, defensiveness, and traditionalism. Contrariwise, we hypothesize that certain relatively routine procedures are inherent to the "standardization of innovation." The collective innovation decision structure we employ in our intervention provides an example of just such a stable organizational sub-structure designed specifically to be change supporting.

Stimulation

As indicated above, we hypothesized that the SF-PS procedures provide for the generation of solutions to problems and the identification of new alternatives and innovations by natural work group members. Solution generation is augmented as a result of such factors as the objective nature of the discussion, the task-orientation of the informal leader, the varying perspectives of the members, and the specification of sub-problems. Maier's (1970) studies of creativity and problem solving support our prediction that these factors and other SF-PS-CD inputs will enhance creative group problem solving.

Creative problem solving commonly involves the stimulation and acceptance of new ideas which have not been considered or used before. Our strategy, which focuses on collective innovation decision making, should intensify new solution generation in a number of ways not yet explicitly mentioned. Slevin (1972) has conceptualized a mathematical model representing the conditions under which individuals in organizations innovate. The model focuses on four independent variables: current success level, target success level, costs of trying new things, and rewards for successful performance. "These variables are related to each other to yield an innovation boundary . . . On one side of the boundary individuals will choose to try new things, while on the other side they will not innovate." (p. 514) According to this framework, educational administrators or external change agents potentially can increase the innovativeness of organizational members by modifying any or all of these variables. While Slevin's experiment focused on the implementation of innovations, we hypothesize that these four variables also are causally related to the stimulation of new alternatives. To the extent to which this closely related hypothesis is correct, the SF-PS-CD strategy creates favorable changes in members' innovation-generation boundary.

More explicitly, the problem solving group should become increasingly aware of relatively poor school performances along certain organizational dimensions by means of the cross-organizational feedback data. Slevin notes that individuals process information on how well they and others are doing "to arrive at predictable estimates of how well they anticipate they will do trying something new." (p. 528) As the "superior performance" of similar schools becomes apparent, it seems that Program Group members should become motivated to generate and suggest innovative solutions for the attainment of higher success levels.

Second the intervention alters the innovation-generation boundary by reducing the costs of suggesting and trying new ideas. The cost of innovating is related to psychological and sociological factors as well as physical or material variables. Costs should be reduced by this intervention in part because the collective decision structure renders horizontal communication more efficient, reduces threat and anxiety, and provides faculty members with the time needed to generate new solutions. As the organization climate and structure becomes innovation-oriented, faculty members should be able to innovate with less effort:

> To establish a healthy climate for change we need first to develop ways for individual teachers to share new ideas with other staff members and to gain support for worthy innovations. The growing body of research findings about change processes in the schools makes clear . . . that the development of an open and supportive climate of personal and professional relationships among the members of the school faculty carried a high priority. (Chesler and Fox, 1967, p. 26)

The SF-PS approach therefore was designed to create an objective, non-threatening, and professionally-open climate in which the generation and transmission of innovative solutions is positively sanctioned (McGregor, 1967).

Problem solving groups are encouraged to generate a number of solutions for each identified problem. The group program then begins anticipating the functional and dysfunctional consequences of each solution. The leaders are cautioned to avoid premature selection among the alternatives. After the group selects the "best" solution, their suggestions for change are communicated throughout the organization. Many favored solutions require legitimation; therefore, selected alternatives are sometimes tentative and modified before implementation. In some cases, the Program Group might decide not to choose among alternatives or possibly even refrain from solution generation. Collective decision effectiveness and efficiency increases as the team avoids dealing with problems they are not competent to solve.

At the organizational level of our model, stimulation implies knowledge linkage, innovation initiation, and solution generation at the technical core level. Some professionally-oriented teachers keep up with new developments in their field by reading relevant journals or taking "refresher" courses. To the extent that they become aware of innovations, new ideas enter the organization at the technical core level and flow upward. In investigating the diffusion of certain educational innovations in Thailand, Rogers and others (1968) found a considerable upward flow of new ideas from teachers to principals and other superordinates. Assuming the existence of such knowledge linkages in U.S. schools; the SF-PS-CD strategy facilitates the flow of ideas within the individual school or school system. This upward flow of knowledge about innovations might possibly increase as specialization in educational organizations increases. School administrators most likely gain more externally generated knowledge relevant to their own jobs (e.g., school finance, purchasing, etc.) than they do about innovations related to teaching. On the other hand, faculty members are more likely to learn about innovations

within their own teaching specialties (e.g., English, physical, mathematics, or special education). As the upward flow of innovations is standardized in schools, faculty members can reinforce the change efforts of curriculum specialists and other change agents in the school and district.

The intervention provides for change initiation and advocacy at the technical core level as the collective decision structure becomes operative. Change initiation is facilitated by collective activities because teachers often are located in the most advantageous organizational locations for: (1) determing that certain changes are needed; (2) defining what types of innovations are most relevant to faculty needs; and (3) advocating particular types of changes. Solution generation by the Program Group similarly is important. Faculty members are often more competent than others to generate solutions to problems which affect them. Collective stimulation is particularly important for problems which cannot be effectively communicated to administrators.

Stimulation or solution generation by the Program Group also has certain important effects on the individual teachers. Stimulation necessitates increased faculty understanding of school problems and increases the teacher's awareness of proposed changes and innovations. These factors act to increase the members' perceived participation in decision making. As the suggestions of the Program Groups are accepted and implemented, implying actual participation, perceived participation will be reinforced. (Additionally, we expected that overall faculty participation in decision making would also increase as the principal utilizes the SF-PS-CD mechanism to assist in authority type decisions.)

An initial consequence of perceived participation in decision making is a re-definition of self-perception concerning each group member's attitudes toward the solution of organizational problems. We hypothesized that as an individual "observes" himself participating in productive problem solving activities, his attitude toward participating in those activities will change favorably. This proposition is consistent with Bem's self-perception hypothesis: "In identifying his own internal states, an individual partially relies on the same external cues that others use when they infer his internal states" (Bem, 1970, p. 50; Bem, 1967). Even individuals who previously have not been concerned with school problems should become less apathetic and begin to prefer a higher level of participation. Simultaneously, the participation aspiration level of concerned teachers should increase to an optimal level.

Internal Diffusion

Innovation in organizations is frequently restricted due to poor communication among individuals and/or between departments or specialized subunits. Insufficient communication acts to retard organizational change in two ways. First, proposals for change often create conflicts in organizations as a result of the inconsistent and sometimes contradictory perspectives of organizational members. In many cases, the most effective means for resolving this conflict is confrontation with a focus on problem solving (Lawrence and Lorsch, 1967). This mechanism for conflict resolution implies more than a minimal level of interaction and communication among dissimilar organizational members. Second, poor communication acts to retard innovation by limiting a person's awareness and understanding of new ideas. To circumvent these dysfunctions, the SF-PS-CD intervention incorporates internal diffusion mechanisms which provide for the communication of identified problems, proposed solutions, and relevant innovations to all organizational members who might be affected by the change decision. In small elementary schools, where the entire faculty acts as a single Program Group, the need for additional horizontal communication is minimal. Internal diffusion mechanisms become necessary, however, as the size and complexity of the organization increases. For purposes of illustration, a large multi-department secondary school (with Program Groups structured along departmental or natural work group lines) will be considered in this subsection.

As Program Groups are established on the basis of departmental or subunit boundaries, the collective decision structure becomes increasingly complex (see Hage and Aiken (1970) on complexity). Organizational complexity often implies some degree of inconsistency among intergroup attitudes and orientations. Complexity may produce innovation decision conflict because the information received by an individual in one subunit is often different than that received by members of other subunits. The information transmitted to an individual in a specialized department is filtered and structured according to the organizational location and professional orientation of the receiver. "Thus perceptions of the environment are biased even before they experience the filtering action or frame of reference of the perceiver" (March and Simon, p. 153). In defining the consequences of innovation solutions, " . . . there is selective attention to particular consequences, and selective inattention to others" (ibid, pp. 153-4). Accordingly, if a number of teachers in different departments (or staff specialists) have selected their own most satisfactory solutions to problems which pervade the entire organization, it is likely that the selected alternatives will be mutually acceptable. Horizontal communication channels therefore are built into the intervention for the reconciliation of intergroup proposals in complex organizations.

The presentation of group recommendations to the Review Committee is preceded by a meeting of the Program Leaders. These representatives exchange information regarding any solutions generated to alleviate problems which affect more than a single department. Program Leaders then provide their own group members with feedback concerning the attitudes, perceived problems, and ideas of other Program Groups. The leaders then meet again to modify proposed solutions to better fit the needs of the entire organization and to increase the acceptance of the proposal throughout the organization. Program leader meetings provide for confrontation between heterophilous individuals who are adequately trained in problem solving skills. Their objective is to generate a superior solution rather than "smoothing over" differences or "forcing" decisions (see Lawrence and Lorsch, p. 76).

If the original proposal would interfere with the activities of other organizational sub-units or result in inter-departmental coordination or other problems, the solution is modified to effect an increase in its quality. However, solution quality is decreased if modification results from power struggles between departmental members or over-commitment to sub-unit goals. Program leaders are encouraged to discuss any underlying causes of conflict and to use differentiated perspectives for conceptualizing more sophisticated solutions. In any event, the team leaders must modify the solution which has as its aim the greatest potential effectiveness in problem resolution.

"Solution effectiveness" is a product of at least three factors: (1) the quality of the solution in terms of meeting system needs; (2) the acceptance of the solution in terms of group members' propensity to implement andutilize the solution; and (3) the minimum level of commitment and cooperation necessary for the implementation of the change. For example, high quality solution A is potentially more effective than low quality solution B, even if members accept B slightly more than A. However, as the necessity for commitment to solution A becomes significantly greater than that for B, solution A's relative effectiveness decreases. The program leaders' objective is to maximize the quality of inter-group solutions by making incremental changes in quality which are less than the associated increase in acceptance. In certain cases, solution acceptance can be increased without sacrificing solution quality.

As new ideas are communicated for purposes of modification, structured internal diffusion also effects an increase in faculty awareness of proposed changes and innovations. Efficient internal diffusion implies that new ideas are quickly communicated throughout the organization and that all individuals who may be affected by the proposed change become aware of it. Lin's report (1968) on intra-institutional diffusion emphasizes the relationship between communication patterns, the variability in awareness dates regarding specific innovations, and the extent of acceptance of the innovation. A structured study of diffusion in three high schools revealed that the organization with the highest degree of innovation internalization and least variability in "first awareness" among the teachers had a superior communication structure in that (1) no teachers were disconnected from the communication

network, (2) no small cliques of teachers arose outside the main network, and (3) the faculty could not be subdivided into cliques even if one or two crucially located teachers were removed (Lin, p. 130). While the collective decision structure does not necessarily improve informal communication networks, the formal communication mechanisms are designed to ensure that all organizational members become aware of new solutions and suggested ideas within a reasonable amount of time.

The functional consequences of the SF-PS-CD meetings and program leader sessions on faculty awareness of innovations can also be analyzed in terms of increased communication between heterophilous individuals. The efficient internal diffusion of ideas is often contingent upon communication between innovative and non-innovative organizational members. New ideas commonly enter a social system through innovative individuals who differ in significant ways from their non-innovative counterparts. However, innovators tend to communicate with one another rather than with relatively heterophilous non-innovators; and consequently the flow of new ideas throughout the system is often minimal (Rogers and Shoemaker, pp. 210-214). Internal diffusion in formal organizations may be further restricted by heterophily caused by specialization, hierarchical stratification, and departmentalization. We hypothesized that members in different organizational locations become aware of different types of externally-generated innovations at different rates or points in time. The diffusion of these different ideas again is limited if the varying orientations of organizational members restrain communication among departments or between hierarchical levels. The SF-PS-CD Groups and program leader sessions were formulated to overcome these obstacles by providing for "institutionalized interaction" (Guest's terminology, 1962). The collective decision structure specifically facilitates internal diffusion be increasing communication (1) among heterophilous innovators and non-innovators by means of the SF-PS-CD meetings and (2) among heterophilous members in different organizational locations by means of the program leader sessions.*

*This section on diffusion has been greatly benefitted from discussions with Professor Everett Rogers (Michigan State University) and Professor Michael Radnor (Northwestern University) on April 7, 1972, Evanston, Illinois.

Legitimation

As recommended by Mann and Likert (1952), the SF-PS-CD strategy accounts for the hierarchical structure of the school organization and incorporates the resultant power structure as perceived by its members into the intervention process. In formal organizations, multiple decision structures would be complementary only to the extent that the collective processes are consistent with the role and status relationships of the authority decision structure. Legitimation activities provide a link between the authority and collective structures and facilitate the coordination between these two potentially competitive systems. The present intervention provides the necessary mechanisms for the legitimizing of SF-PS-CD Group recommendations, and in so doing, provides a potential for improved vertical communication. This subsection focuses on the underlying problems of vertical communication in formal organizations, the vertical communication network employed in this intervention, the nature of upward flowing messages, and the prescribed intervention process for legitimizing group recommendations.

The problem of upward communication in hierarchically structured organizations has been frequently documented in the social psychological and organization behavior literature. Festinger (1950) notes that hierarchical structuring inherently inhibits free communication as lower status members are reluctant to criticize superordinates. Katz and Kahn (1966) suggest that organizational participants often want to move certain mesages up the line,

> . . . but generally they are afraid of presenting it to the most relevant person or in the most objective form. Full and objective reporting might be penalized by the supervisor or regarded as espionage by peers. To these difficulties must be added the fact that full and objective reporting is difficult, regardless of the organizational situation; no individual is an objective observer of his own performance and problems. (p. 246).

Ineffective upward communication is in large measure the result of the power superordinates hold over lower status members. As subordinates perceive supervisors as instrumental to their needs satisfaction and distribution of rewards, upward communication is filtered to avoid conflict and to maintain favorable relations and impressions (see Cohen, 1958; Read, 1962). Additionally, upward communication is often inhibited by the lack of proper communication channels and ambiguity or conflict concerning organizational roles and social structure (see, for example, Jackson, 1959).

The presence of formal mechanisms, channels, and specified roles for the upward transmission of information is a necessary, though not sufficient, condition for effective vertical communication. As described in the intervention section, our SF-PS-CD strategy includes the implementation of a special communication network for purposes of legitimation. The collective decision network is characterized by "overlapping groups"--that is, certain individuals are key members of more than one of the three committees which were initiated at the beginning of the intervention. (see Likert, 1961; and Havelock, 1971, p. 6-33, on overlapping groups) The program leader and school principal are the central individuals in the overlapping group structure represented in Figure 4.1. The program leader is a member of all three committees; the school principal participates in both Review Committee and Policy Committee activities. In most cases, the program leader is responsible for initiating the upward transmission of information from the Program Groups to the Review Committee. Other members of the Program Group occasionally might be assigned the responsibility for making certain recommendations to others. In any event, responsibility for communicating identified problems and proposed solutions is relegated to a specific individual or subgroup. In this matter relatively high specificity of role prescriptions for communication is achieved.

While the overlapping group structure sets the stage for vertical communication, other aspects of SF-PS-CD intervention are instrumental in bringing about the effective utilization of this network. Our strategy focuses on vertical information exchange between groups rather than between individuals. Group membership enhances a subordinate communicator's ability to interact with superordinates on a more equal basis. Group membership has been shown to decrease the subordinates feelings of threat and increase their propensity to: (1) disagree with supervisors, (2) offer counterproposals, (3) act less defensively, and (4) assume more problem-orientated behavior (Jackson, Butman, and Runkel in Jackson, 1959). (Jackson also notes: " . . . When communication from a superior is directed to a group rather than to isolated individuals, it is likely that more accurate transmission of information is achieved" (p. 495).

Other factors related to the functioning of the SF-PS-CD Group act to increase the potential for and the efficiency of vertical communication. First, the problem solving sessions minimize the transmission of inconsistent and conflicting statements of problems. Administrators are spared the task of reconciling the differing perspectives of the faculty members--this task is accomplished during the SF-PS-CD sessions. Second, the transmission of underdeveloped statements of problems is minimized. Problems perceived by the faculty are not discussed at the Review Committee level until they are broken down into subproblems and analyzed in terms of underlying reasons and causes. Additionally, suggestions for alleviating the problem are generated and communicated when possible and appropriate. Third, problems are stated in impersonal and task-oriented terms; organizational titles are used rather than names; unconstructive criticism and negatively-worded

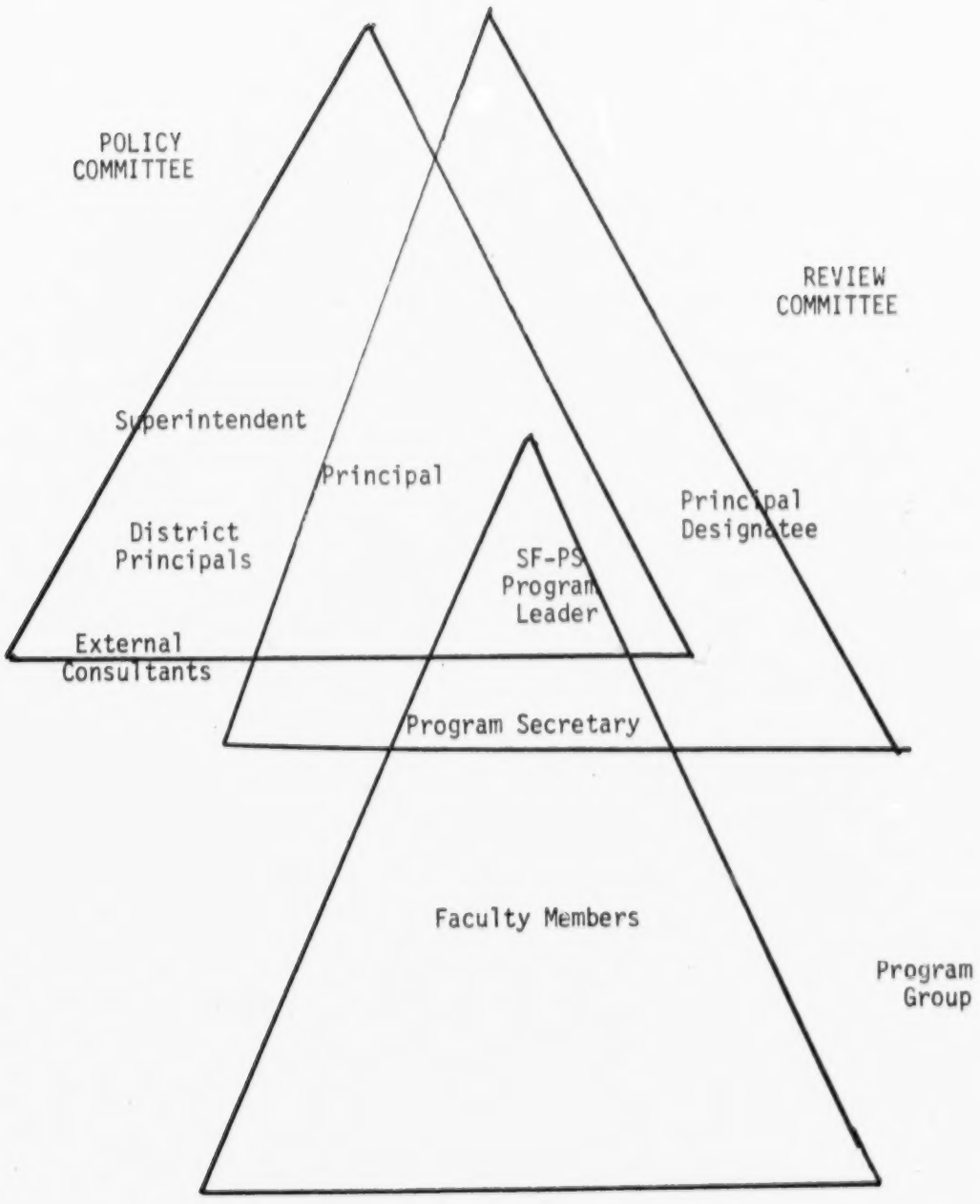

Figure 4.2
Overlapping Groups in the Collective Decision
Communication Network

statements are avoided. We expected that positive and impersonal messages minimize perceived threat and defensiveness for both senders and receivers. Fourth, as group ideas are documented and formalized, the accuracy of vertical communication should increase. Next, we anticipated that the inter-organizational data effect an increase in the efficiency and objectivity of vertical communication. Problem areas are defined by the relatively objective feedback of cross-organizational data. Isolated and subjective "gripes" from individual teachers are replaced by more sophisticated statements of objectively identified group problems. As messages focus on the identified problems, the relevancy of upward communication or organizational needs should increase. Vertical communication efficiency further increases as the Review Committee determines which types of changes must be granted formal sanctioning. As faculty members learn that certain changes can be implemented without higher level approval, unnecessary "red-tape" should be minimized. Similarly, downward communication should increase in relevancy and efficiency. As perceived problems and proposed changes are transmitted to superordinates, feedback from the Review Committee focuses on those policies directly related to the problem areas.

Vertical communication channels can be used for the transmission of various types of SF-PS-CD information. Upward messages from the Program Group to the Review Committee might be statements of perceived problems, recommended solutions, or new ideas selected for implementation. The type of information sent up to the Review Committee depends on the scope of the Program Group's activities; these, in turn, are a function of the nature of the problem. In the "Evaluation-Data Feedback" subsection, we referred to the decision sorting process. We noted that the effectiveness of faculty decision making is related to the relevancy of the problem and to the competence and authority of the Program Group. These three factors will be considered in somewhat greater detail below, particularly as they relate to the prescribed activities and upward communication responsibilities of the SF-PS-CD group.

The factors of relevance, competence, and faculty authority are instrumental in determining the relative contributions of the collective and authority structures for the solution of organizational problems. The three factors constitute a Guttman scale of sorts which defines the optimal scope of collective decision activities for different types of problems. First, the Program Group must agree that a problem area is relevant in order for any type of collective decision activity to be beneficial. Relevancy implies that the identified problem has consequences for the faculty and that the members have a personal stake in any decision or change related to that situation (see Bridges, 1967). Relevancy also implies that the faculty members perceive some responsibility for dealing with the problem. If the condition of relevance is not satisfied, collective decision making probably will be ineffective and perhaps dysfunctional. The teachers might not be able to define a problem which does not affect them and/or the members might lose interest in the entire collective process. Furthermore, teachers may resent being called upon to work on certain problems if they are perceived to be the prerogative of other organizational members who are paid to handle those problems (Blau, 1962).

A relevant problem warrants the faculty's interpretation, specification, and sub-problem analysis. However, if the faculty does not have the expertise to generate solutions to the problem, the collective decision process should terminate at the evaluation stage. Communication to the Review Committee should include the faculty's perception of the problem, possible underlying reasons and causes, and in some cases, a statement of the desired state of future affairs. Stimulation or the generation of solutions and the identification of relevant innovations would be frustrating for the faculty and possibly a waste of time.

As indicated in Figure 4.3, both relevance and competence are necessary conditions for stimulation. As these two conditions are met, faculty members should be motivated and able to generate solutions. A satisfactory solution should emerge and be selected once a number of possible alternatives have been identified and evaluated. However, if the Program Group does not have the authority to make a final decision, implementation of the selected alternative might be dysfunctional. This would certainly be the case if changes initiated by the faculty were later opposed or reversed by those with the authority to veto the decision. Under conditions of relevance and competence, but not authority, the program leader is instructed to communicate the perceived problem and the faculty's recommendations for action to the Review Committee. In these situations, legitimation is a necessary stage of the collective decision process.

There are certain changes the faculty can implement without the approval of the principal or other superordinates. Certain decisions within schools meet the necessary conditions of relevance, competence, and authority for autonomous collective decision making. When this is the case, problems can be evaluated, solutions generated, and selected courses of action implemented. Upward communication to the Review Committee should be brief but sufficiently concise to familiarize superiors with the planned change. We should emphasize that the Policy or Review Committee identifies the types of changes that can be implemented without formal legitimation. As the authority of the Program Group is defined, vertical communication should increase in efficiency and channel overloading be avoided. Also, we should stress that as faculty authority is defined and the conditions of relevance and competence are considered, collective decision activities should increase in effectiveness as various decisions are allocated the proper amount of time and attention.

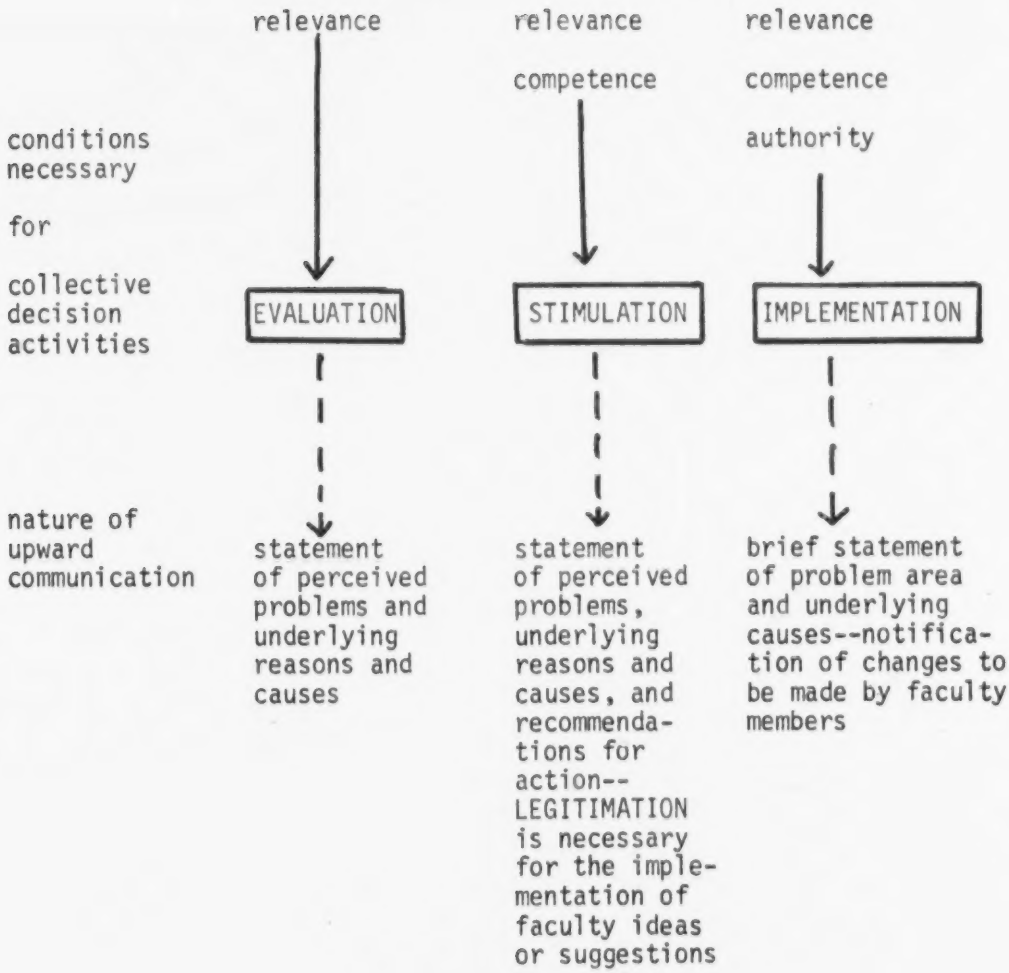
conditions necessary for collective decision activities
relevance
relevance
competence
relevance
competence
authority
EVALUATION
STIMULATION
IMPLEMENTATION
nature of upward communication
statement of perceived problems and underlying reasons and causes
statement of perceived problems, underlying reasons and causes, and recommendations for action--LEGITIMATION is necessary for the implementation of faculty ideas or suggestions
brief statement of problem area and underlying causes--notification of changes to be made by faculty members

Figure 4.3
Decision Sorting in the Faculty Collective Decision Process

The dynamic relationship between the authority and collective decision structures change with the nature of identified problems. Under conditions of relevancy (without competence or authority), messages are sent from the Program Group to the Review Committee to supplement the context evaluation of the authority decision structure. Under conditions of relevance, competence, and authority, the collective decision structure in effect operates independently of the authority structure. The relationship between the two structures is most critical when the faculty focuses on a relevant problem, has the competence to deal with the problem, but lacks the authority to make final decisions. Under these conditions, legitimizing activities are necessary for the effective coordination of the two structures and the successful implementation of faculty-initiated changes.

Administrators are presented with statements of problems and recommendations for action during Review Committee meetings. Proposed solutions might be authorized, rejected, or sent up to the Policy Committee for further consideration. In the case of rejection, the principal is encouraged to explain the reasons for the nonauthorization and suggest possible modifications of the proposal. As this information is fed back to Program Group members, their understanding of organizational problems improves. On the basis of this broadened perspective, members may then attempt to generate modified solutions of higher quality and increased feasibility . Occasionally, proposed solutions might have to be drastically modified or abandoned completely. In these cases, it is possible that faculty dissatisfaction with the situation in question will decrease as a result of an improved understanding of the problem. In any case, legitimizing activities should increase the overall effectiveness of the collective process. As formal leaders are involved in collective decision processes, efficient execution of collective innovations becomes more probable (Rogers and Shoemaker, p. 281). Principal participation in collective activities not only facilitates the implementation of teacher-initiated changes but also brings about increased administrative acceptance of the SF-PS-CD processes.

Adoption

The dimension of adoption reflects the decision to accept the proposed change by those individuals who are affected by the innovation. In contrast to authority-type decisions, the adoption of collective decisions is a more gradual process. Consequently, the actual time of acceptance is more difficult to define. The SF-PS-CD guidelines necessitate a minimal level of consensus at an early stage of the collective decision process. General group acceptance of an innovative solution is required before the idea is communicated upward for legitimation. However, the final solution might differ from the original proposal generated at the work group level. Adoption is concerned with teacher acceptance of the solution in its final form, after it has been modified for purposes of legitimation.

We anticipated that there would be relatively high acceptance of the formally sanctioned solutions. As the faculty's ability to generate high quality solutions improves through the use of problem solving procedures, their output of feasible and administratively-acceptable solutions should increase. When administrators cannot accept particular recommendations, they are asked to explain why the solutions are not feasible in their present form. Effective downward communication increases the faculty's understanding of a problem area as their own perceptions are supplemented with a hierarchically-differentiated perspective. Less distorted and more objective vertical communication should bring about more consistency across organizational levels regarding member attitudes toward problems and preferences for possible solutions.

High member acceptance of final solutions is primarily a result of a number of factors related to faculty involvement and participation in decision making activities. The same factors which operate to make the actual time of adoption difficult to define also operate to increase member acceptance of proposed changes. Rogers and Shoemaker (pp. 286-287) hypothesize a positive relationship between member acceptance of and satisfaction with collective decisions and member participation in those decisions, a proposition strongly supported by a substantial body of research. Much of the empirical research done in this area focuses specifically on group discussions as a means for participation in either authority or collective decisions.

Lewin's (1943) classic study of housewives' acceptance of new food products found that group discussion methods resulted in a higher adoption rate than lecture methods (32% versus 3%, respectively). Levine and Butler's (1952) research on factory foremen's acceptance of new employee performance rating procedures also illustrated the superiority of group discussion methods over lectures in bringing about acceptance. Coch and French (1952) compared the use of the lecture method and the discussion approach in changing employees' work procedures in a pajama factory. Members of the discussion group, who dealt with management

problems relating to the future of the company, exhibited less resistence to the eventual changes than did members of the other group. Radke and Klisurich's (1947) research indicated that attitude and behavior changes are more permanent over time as a result of this type of participation in decision making.

Research in educational organizations suggests that faculty participation in decision making and/or group discussions are associated with innovativeness. Davis (1965) made comparisons between an innovative and non-innovative liberal arts college. He found that faculty members in the innovative organization were more involved in change decisions. Greater teacher participation was also a characteristic of the more innovative of two Chicago elementary schools (Queely and Street, 1965, reported in Rogers and Shoemaker). The Schmuck, Runkel, and Langmeyer (1971) organization development intervention stressed faculty training and participation in group problem solving. Partially to assess the effects of the strategy, teachers in the experimental and three control schools were asked to list and describe recent changes in their school. In contrast to the control faculties, teachers in the experimental schools reported many more (1) innovations that are instrumental in achieving new forms of organization and (2) new methods of problem solving. However, control school teachers generally mentioned more "packaged" innovations, such as new teaching materials or television equipment. In another study, Chesler and Baraket (1967) found that teacher participation in problem solving activities leads to a greater sharing of ideas and possibly greater receptivity to change.

Group discussions and participative problem solving seem to have two highly interrelated consequences: greater organizational innovativeness and higher faculty acceptance of change. It is not yet clear which specific factors associated with participation and/or group problem solving are most instrumental in bringing about greater acceptance of innovative decisions. Some researchers have isolated various factors in an attempt to specify the critical variables; others have implicitly assumed or suggested that certain factors produce these results. Table 4.1 represents an attempt to classify systematically some of the factors contributing to innovativeness and acceptance. The 2 x 2 matrix dimensionalizes the factors on the basis of: primary process effects (X_1), secondary pressures (X_2) of participation in decision making activities (Y_1), and increased group interaction (Y_2).

Direct process effects (X_1) occur as group decision making activities progress. Many direct process effects are predominately the result of the individual's participation in the decision making activities. As individuals take part in decision processes, their understanding of the problem, influence over the decision, and awareness and understanding of the selected alternative increase. These decision making process effects, independent of any group interaction, act to increase the participant satisfaction with and acceptance of the particular decision outcomes (X_1Y_1). Other direct process effects are predominately the result of increased interaction among group members.

TABLE 4.1

A TENTATIVE CLASSIFICATION OF SOME GROUP DECISION MAKING FACTORS RELATED TO INNOVATIVENESS, ACCEPTANCE, AND SATISFACTION

	Direct Process Variables X_1	Indirect Pressures X_2
Decision-Making Y_1	Better understanding of organizational problems (Coch and French, 1948)	
	Perceived participation and involvement in the decision process (French et al., 1958)	
	Act of making and reaching the decision (Bennett, 1955)	Cognitive consistency (Festinger, 1957; Bennett, 1955)
	Crystallization of own ideas leading to self-commitment (Katz and Kahn, 1966)	Public commitment to the decision
	Private commitment to the decision (Brehm and Cohen, 1962)	Perceived group commitment (Mann and Likert, 1952)
	Influence over the decision (Hoffman, Burke, and Maier, 1965)	Perceived Group Consensus (Bennett, 1955)
	Perceived relevancy of the innovation (Gallaher, 1964)	
	Awareness of the Innovation (Gallaher, 1964)	Clear Statement of the decision outcome in terms of a course of action (Katz and Kahn, 1966)
	Understanding of the innovation (Linn et al., 1966)	
Interaction Y_2	Broadened organizational perspective (Mann and Likert, 1952)	Increased sensitization to the influence of others resulting from increased interaction (Polson and Pal, 1965; Havelock, 1971)
	Increased exposure to heterophilous individuals (Rogers and Shoemaker, 1971)	
	Increased exposure to opinion leaders who might be innovators (See Rogers and Shoemaker, 1971)	Decreased resistance to acceptable outside information sources resulting from peer support (Havelock, 1971)
	Accelerated internal diffusion of new ideas (Chesler and Baraket,1967)	
	The pooling of independent judgements (Kelley and Thibaut, 1954)	Development of new norms while maintaining cohesiveness (Miles et al., 1969; Havelock)

Interaction process variables (X_1Y_2) operate as individuals increase their interaction with others and are exposed to different viewpoints and new ideas. Interaction process variables complement the decision making process variables; as individuals interact, their awareness and understanding of problems and possible innovations increases. This in turn produces an increase in satisfaction with and acceptance of decision outcomes.

There are also a number of important indirect pressures (X_2) which result from participation in group decision making activities. These indirect effects and peer group pressures tend to modify the behavior of participants and change certain characteristics of the group. Indirect decision making pressures (X_2Y_1) tend to increase member commitment to particular decision outcomes. Some of the factors are intrapersonal--for example, the pressures for cognitive consistency. Other indirect decision making pressures are interpersonal and are based on the individual's perceptions of the group's commitment to the innovation decision. Perceptions of group commitment and consensus are treated here as decision making variables rather than interaction variables. Individuals can learn about the extent of others' commitment to a particular decision by means of feedback data--group interaction is not really necessary to bring about this awareness. However, we acknowledge that group interaction is also instrumental in bringing about these perceptions:

> . . . the perception of group norms which emerges from a natural process of reaching group agreement is probably more effective than feeding the group information about the nature of consensus among them. (Katz and Kahn, p. 203)

There are, however, a number of factors which less questionably can be classified as indirect interaction effects (X_2Y_2). These factors are social psychological consequences of increased interaction among group members. For example, as individuals increasingly participate with others, it is possible that they become increasingly prone to their influence. If group activities succeed in bringing individuals out of isolation, they might become aware of and adopt more innovations more readily.

The final factor listed, development of new norms, is the most general effect included in the matrix. Development of new norms can refer to a group's development of new problem solving and change supportive norms as a result of planned group activities. It can also refer to the development of new group norms regarding specific changes and decisions (an indirect effect resulting from both group interaction and problem solving).

The decision making effects, both direct and indirect, seem to operate to increase participant acceptance of the particular decision being made. The interaction factors may bring about more basic changes in the group's functioning. Most of these factors operate to broaden the perspectives of group members and to increase their exposure to new ideas. As the general level of innovation awareness increases, the potentiality for a collective innovative decision and member acceptance of those decisions increases. [This tentative classification includes only some of the factors related to innovativeness, satisfaction, and acceptance. The factors listed, and others which have been omitted, are discussed in somewhat greater detail by Katz and Kahn (chapter 13), Rogers and Shoemaker (chapter 9), and Havelock (chapter 5). We should like to emphasize that the classification presented above is still under development and should be considered as a working effort.]

The adoption stage also includes the final planning for the change and the preparation of the system for implementation. Preliminary planning for change will have taken place during earlier stages of the collective decision process. During the stimulation stage, the logistics of alternative solutions are studied to determine relative feasibility. The internal diffusion of the selected alternative increases the group's awareness of the possible secondary consequences of the change throughout the system. Feedback from the Review Committee advances planning activities as additional organizational and environmental constraints are identified. The time of adoption is as difficult to define in respect to planning as it is in respect to acceptance. However, final planning must take place prior to implementation to ensure the efficient execution of the proposed program. Though the SF-PS-CD guidelines include relatively few prescriptions for final planning, two procedures are suggested. First, a sub-committee is formed to deal with the proposed change in greater detail. Specific group members are assigned responsibility for defining needed resources for implementation and exploring the consequences of the change. Second, a time schedule for implementation is developed which assigns who is to do what by when, thus firming up starting, interim progress checks, and completion dates.

Implementation

We expected a high degree of implementation of group initiated changes and innovations in the SF-PS-CD schools. The same factors which operate to bring about acceptance of new programs also act to facilitate the implementation of those programs. Implementation, which is often accompanied by conflict and general organizational disequilibrium, should be less disruptive as a result of the adopting unit members' participation in group problem solving activities. There are a number of additional SF-PS-CD factors facilitating innovation implementation which have not yet been explicated. These factors involve the formalization of group decision outcomes, the scheduling of faculty activities, and the effects of multiple decision structures on implementation.

Documentation and formalization pervade this entire SF-PS-CD strategy. As described in the intervention section, the program leader and his or her secretary are responsible for documenting all problems identified and solutions generated by the group. Each decision outcome is recorded as an "Action to Take" by the members of the team. Katz and Kahn assert that group decisions are more powerful when the decision outcomes are clearly stated in terms of a course of action: "The changed beliefs are removed from the area of good intentions to the realities of everyday behavior" (p. 402). Specification of decision outcomes acts to increase the clarity of goals associated with the new program. As change goals become clearer, the predisposition of individuals to engage in change tasks should increase.

Possibly one of the most effective means for increasing an individual's propensity to engage in a non-routine activity is the setting of deadlines. Though programmed activities tend to drive out non-programmed activities, deadlines can act to increase an individual's concern with the latter type of task (March and Simon, p. 186). Schedules are established for all actions planned by the Program Group. Group members know who is responsible for carrying out specific tasks. This unambiguous assignment of responsibilities to specific faculty members further increases the probabilities for implementation.

The effects of organizational structure on system change are somewhat contradictory and complex. In particular, the varying effects of centralization and stratification on organizational innovativeness have been noted by a number of researchers including Banfield (1961), Wilson (1963), Chesler et al., (1964), and Hage and Aiken. In relation to each of the stages of the organizational change process, high concentration of authority at the top of the organization acts to inhibit most of the evaluation and stimulation activities of members at the technical core level. Similarly, high centralization might discourage lower organizational members from transmitting new ideas throughout the school and thus retard internal diffusion. Though the generation and dissemination of new ideas is often low in centralized organizations, the execution of initiated innovations is relatively efficient. Centralization facilitates change implementation because of effective downward communication, quick and simple legitimation of changes, and sufficient control to coordinate change activities.

If the foregoing analysis is correct, it would seem that more innovations would be considered for implementation in decentralized than in centralized organizations. The ratio of innovations implemented to innovations initiated is possibly higher in the centralized organization as a result of superordinate power to direct and control change. This relatively high implementation-initiation ratio, however, is also the result of less frequent initiation of changes. Further, high centralization tends to restrict the magnitude and acceptance of innovations. Changes implemented in centralized organizations also are frequently

more moderate than those implemented in decentralized organizations. When concentration of power is great, organizational elites avoid radical changes that would decrease their power (Michels, 1958; Hage and Aiken [p. 39]). As centralization decreases the participation of the teachers in the decision process, genuine acceptance of the innovation decreases even though teachers might outwardly comply with administration directions.

This paradox can in theory be resolved partially through the use of multiple decision structures. As certain problems are channeled into the collective decision mechanism, the generation and dissemination of innovative solutions should increase. The upward transmission of faculty proposals for legitimation thus brings the authority decision structure into operation at a very opportune stage. We cannot always assume that the problem solving group can bring about the successful implementation of systemwide changes. The administrative expertise and the organizational location of principal is a prime necessity for the successful execution of many changes.

We hypothesized that different organizational decision structures with varying degrees of centralization would be helpful in bringing about change in schools. The SF-PS-CD strategy is initiated in a manner that does not interfere with the ongoing authority structure of the school; the potentiality for efficient innovation implementation is preserved. As the superimposed collective decision structure becomes a reality, teacher change initiation, dissemination, and adoption should increase. The success of this structural modification depends on the ability of organizational members to accept and coordinate their new roles. Overall organizational effectiveness and innovativeness might actually decrease if the structures become competitive rather than complementary. The intervention assumes that through prior program understandings and commitments the principal would be willing and able to identify and act upon those situations which would benefit from a temporary sharing of his power. Similarly, the strategy assumes that these same program understandings and commitments would forestall any faculty attempt at a "power grab" during the course of the intervention. The legitimation mechanism is built into our intervention as a way of discouraging dysfunctional and nonproductive power struggles.

Routinization

Educational innovations are often short-lived. New programs are quickly forgotten and new equipment is conveniently ignored. The SF-PS-CD intervention is designed to reverse this trend by increasing teacher involvement with and commitment to innovations. Provided proper incentives of procedures faculty members should exhibit a willingness to change their habits and adjust to new, self-imposed work situations. The application of new procedures and techniques should become less burdensome as a result of intergroup and interlevel planning. As a consequence, we hypothesized that a higher proportion of new programs will become routinized (that is, merged with the standard operating procedures of the school) as the collective decision structure is used for organizational problem solving.

A major responsibility of Program Group members at this final stage is follow-up on faculty-initiated changes. One of their objectives is to determine whether the proposed solutions have been integrated into the school's task system by the target date. "Post-mortem" discussions and reports are recommended for identifying those new programs which have been improperly implemented or discontinued. Attention is also focused on the identification and correction of any unanticipated consequences of implemented innovations. Follow-up provides for the collective evaluation of new programs in relation to overall organizational performance. This reflects the circular nature of ideal change models in general, and effective collective innovation processes in particular.

Follow-up activities implicitly include the evaluation of the SF-PS-CD program's effectiveness. As faculty members are involved in and review Program Group activities, they should perceive greater participation and collectivity in school decision processes. We anticipated that the collective decision process would be perceived by organizational members as sufficiently meaningful to: (1) ensure the continuation of faculty problem solving activities and (2) bring about a reinforcement of change supporting norms. Reflection on group processes acts to reinforce at least two important sets of norms which facilitate the "communication of information" and "collaborative action" (see Miles et al., p. 463). The "institutionalization of change" depends on the development of shared and learned norms that define problem solving, change, and openness to change "as legitimate and important aspects of one's organizational role" (Duncan and Radnor, 1972, pp. 1,5).

Change institutionalization demands modifications in structural as well as human variables. The intervention should therefore focus on "the structure of organizations in that it creates a set of role expectations on the part of organizational members that supports change" (Duncan and Radnor, p. 5). In effect, we are suggesting that educational systems of the future must also be redesigned to provide mechanisms for the communication of information and collaborative action. The routinization of the SF-PS-CD processes implies the development of these change supporting structures. The structural consequences of the intervention are observable at two levels of analysis. First, the superimposed collective decision structure can be discussed in terms of its own structural profile. Second, as the collective structure is placed over the existing authority structure, the overall characteristics of the school are altered. As a result of the newly implemented complementary structure, an analysis of the organization should reveal changes in such structural characteristics as configuration, standardization, and formalization. The structural consequences of the intervention will be reviewed briefly in terms of Pugh's (1963, 1968) conceptual scheme for organizational analysis.

The collective decision structure is characterized by a relatively high degree of standardization. Standardized procedures are those events which occur regularly and are legitimized by the organization. Pugh cites four types of events as measures of standardization: "(1) decision-seeking procedures, (2) decision-making procedures, (3) information conveying procedures, and (4) procedures for operating or carrying out decisions" (1963, pp. 302-303). The SF-PS-CD guidelines prescribe rules and definitions for all these events as they relate to collective decision activities. The program also provides for a concomitant high degree of role standardization and specialization. The role prescriptions of school personnel concerning collective decision making should increase in specificity as a product of the intervention. Participants are confronted with new (and specialized) role expectations as they serve as Program Group members, program leaders, or Review Committee members. Collective problem analysis, solution generation, and program implementation represent the type of activities included in unamibiguous role expectations provided by the program. New role expectations thus should support rather than restrict organizational change.

At the organizational level of analysis, role prescriptions are reflected in an increase in overall standardization. As suggested earlier, the increase in standardization should not increase organizational regidity because it reflects the programming of under-structured change-producing activities. The relationship between the standardization of faculty problem solving activities and the effectiveness of those activities is probably curvilinear. Considering the uncertainty and ambiguity surrounding natural (non-experimentally introduced) collective decision procedures in elementary schools, a controlled increase in the structure of group problem solving should prove to be functional.

The change supporting collective decision structure also is characterized by a high degree of formalization. Formalization distinguishes the extent to which "communications and procedures are written down and filed", including "(1) statements of procedures, rules, roles . . . and (2) operation of procedures, which deal with (a) decision-seeking . . . (b) conveying of decisions and instructions . . . and (c) conveying of information, including feedback" (Pugh et al., p. 303). Roles and procedures for feedback and problem solving are documented at the beginning of the intervention. Program leaders are provided with handbooks which document specific feedback techniques and problem solving methods. Results of the feedback itself are documented. Minutes are taken during every problem solving session, circulated, and filed. Problems, underlying reasons and causes, and group recommendations are recorded as "SF-PS Results;" these reports are used to facilitate upward communication. The frequent use of documentation for collective decision procedures is reflected as an increase in overall organizational formalization.

The SF-PS-CD intervention is designed to change the shape or configuration of the school's organizational structure. The overlapping group structure increases the potential for group problem solving and upward communication. This collective decision structural configuration, though designed to be consistent with the ongoing system of relationships, is different from the authority structural arrangement. This comes about because different structural arrangements are necessary for technical core group problem solving versus managerial level problem solving, upward communication versus downward communication, teacher-initiated change versus administration-initiated change, and teacher collective evaluation versus administration context evaluation. The implementation of the collective decision structural configuration preserves the authority structural arrangement. At the same time, we expected that the observed configuration of the authority decision structure would change as overlapping program groups are employed for the communication of administration-initiated change.

Pugh's operationalization of centralization focuses on the terminal point or hierarchical level of the last person who must sanction decisions before action can be taken (1968). Collective decision making is, by design and definition, decentralized. The degree of overall organizational centralization decreases as the faculty group gains the authority to implement certain types of changes without administrative approval. However, many of the solutions generated at the Program Group level are subject to Review Committee approval. These legitimized faculty-initiated changes would be classified operationally as centralized decisions because Pugh's measurement does not consider the hierarchical level of evaluation or stimulation activities. Faculty evaluation and stimulation would be reflected by an increase along a "participation in decision making" structural dimension. (According to Pugh's operationalization of centralization, the dimensions of centralization and participation are conceptually distinct). Participation should improve the quality of centralized decisions and increase the general effectiveness of the centralized approach to management. For certain types of decisions, centralization can only be effective when the decision maker (the legitimizer) concentrates on selecting the best feasible alternative and allocates the responsibility for other decision subprocesses throughout the organization.

As indicated throughout this theoretical overview, the new change supporting structures should increase organizational effectiveness, innovativeness, and health. The SF-PS-CD intervention is designed to bring about organizational changes along primary structural dimensions. These basic structural modifications should produce favorable changes in many second-order system properties which contribute to organizational health (see Miles, 1965; Miles et al., 1969; McElvaney and Miles, 1971). An important component of organizational health is innovativeness. We expect the intervention to improve both school innovativeness (early use of new structural and functional ideas) and the organization's ability to change (adaptation to the environment through the implementation of ideas used in other schools but not previously used in the target school). Increased organizational effectiveness also becomes feasible as the faculty group generates inventive and creative solutions to existing school problems.

Higher levels of effectiveness and innovativeness, coupled with faculty member perceptions of collectivity in decision processes, should produce favorable changes in the teachers' attitudes toward their work environment. Attitudes should improve as teachers perceive some influence over those decisions which they believe "legitimately belong within their sphere of influence." These favorable changes would be reinforced as faculty members gain a clearer "conception of who is responsible for making decisions" (Wick, 1971, p. 156). Further, the intervention provides a mechanism for specifying and correcting those school problems which tend to create unfavorable attitudes. Even if certain problems cannot be alleviated, faculty attitudes should improve as teachers gain a better understanding of organizational exigencies. Teacher attitudes toward the administration would be expected to improve as communication across hierarchical levels increases.

In this study, our program evaluation efforts focus on these anticipated improvements in teacher work attitudes. To our knowledge, no previous research has focused specifically on the effects of participation in collective decision processes on teacher work attitudes. Nevertheless, a closely related body of research strongly suggests that as lower organizational members increasingly participate in authority decision processes their satisfaction and morale increases. Morse and Reimer's (1956) experimental manipulation of rank and file employees' involvement in decision making increased employee satisfaction and sense of responsibility and decreased costs associated with work performance in the treatment groups. Research in the survey feedback tradition also supports the participation-satisfaction relationship. Mann (1957) found that as members of accounting departments participated in survey feedback and group problem solving activities, their attitudes changed favorable and morale improved. Likert (1961) found that particular changes in organizational communication and decision making procedures, coupled with the training of supervisory and staff personnel, resulted in increased employee satisfaction, a reduction in waste, and increase in productive efficiency. Seashore and Bowers (1963), applying Likert's theory of management, improved working relationships and employee attitudes in two departments of a manufacturing organization.

In educational organizations, Chase (1951) found that teachers' enthusiasm for their school systems was related to the degree to which they participated in relevant decisions. Bidwell's (1956) research indicates that teacher satisfaction is related to the congruency between their perceptions and expections of administrative behavior. His findings suggest, however, that increased participation does not necessarily improve teacher morale. Somewhat similarly, Belasco and Alutto (1972) compared teachers' preferred level of participation with their perceived level. They conclude that increased participation can actually be dysfunctional for teachers personally experiencing decisional saturation (too much participation).

The SF-PS-CD intervention incorporates mechanisms to direct teacher problem solving and decision making to issues which are relevant to the faculty's work situation. The strategy was hypothesized to lead to the development of new faculty norms governing collective decision making. We expected that the problem solving procedures would raise teachers' preferred level of participation and would provide simultaneously for the opportunity for increased participation in decision making. The resulting higher level of decision equilibrium (preferred level equal to perceived level of participation) should bring about greater job satisfaction. Favorable work attitudes thus would be reinforced as relevant problems are discussed and organizational role relations improve. Consequently the field research design and evaluation procedures presented in the following chapter have been developed to assess in the main the intervention's effects on teacher work attitudes.

CHAPTER V

HYPOTHESES AND PROCEDURES

On the basis of the theoretical and program considerations discussed in the previous chapters, we shall now present the formal hypotheses, research design, sample, instrumentation, and methods of analysis for the action-research project.

General Hypotheses

To recapitulate, the experimental treatment or independent variable for this research was the survey feedback-problem solving-collective decision intervention (SF-PS-CD) described in Chapter III. The dependent variables included overall school organizational effectiveness/innovativeness and teacher attitudes toward fourteen basic dimensions of their work environment. We focused our attention on two important intervening variables: the complementary collective decision making and change-supporting structures routinized as a result of the intervention and teacher perceptions of these structures in terms of seven operational dimensions. For this evaluation we merged the three levels of analysis, conceptually distinguished in the theory chapter, into two broader categories: (1) the organizational and (2) the individual-natural work group level. The abbreviated model representing relationships among these variables is presented below (Figure 5.1).

This model suggested at least four general hypotheses. As a result of the survey feedback-problem solving-collective decision intervention:

H1: Teacher collective decision and change-supporting structures will be routinized in a manner complementary to the existing authority structure of the school.

H2: The collective decision and change-supporting structures will increase general school organizational effectiveness and innovativeness.

H3: Teachers will perceive the collective decision and change-supporting structures as affording them greater participation in and influence over school decision making processes.

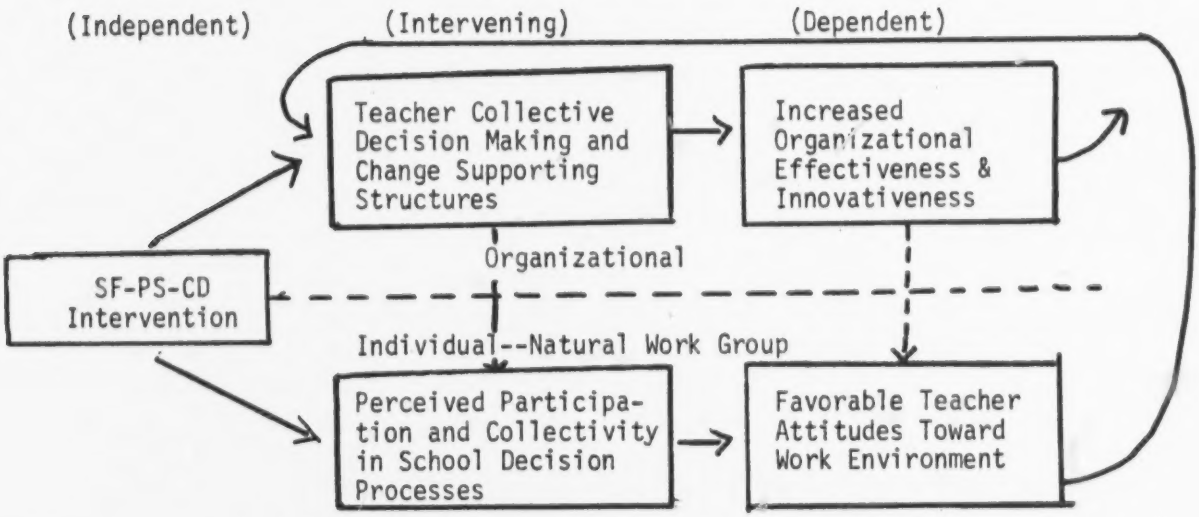

Figure 5.1 Key Variables and Their Relationships

H4: As a consequence of H1, H2, and H3, the opinions and attitudes of the teachers toward important aspects of their work environment will become more favorable.

Our empirical research focused primarily on the individual-natural work group hypotheses (H3 and H4) and incorporated instruments and a field experimental design to test predictions derived from these hypotheses. The testing of the organizational level hypotheses (H1 and H2) was less rigorous. No objective indices were used to assess organizational effectiveness/innovativeness nor were any profiles used to measure changes in organizational structure. These hypotheses were investigated by means of documentary analysis and semi-structured interviews which sought the perceptions of the principals and program leaders concerning these variables in the experimental schools.

Field Experimental Design

The problem of design focused on assessing the main effects of the independent variable (the intervention) and controlling for the effects of extraneous factors which might account for changes in the dependent variables (school organizational effectiveness/innovativeness and teacher work attitudes). The most important of these potentially confounding variables have been identified by Campbell and Stanley (1967) and by Bracht and Glass (1968). Based on validity considerations, a modified four-group design was selected as most appropriate for the project. The design provided for pretest-posttest experimental and control groups as well as for an experimental feedback only group and a control group lacking the pretest. The specific design of the study is presented in Table 5.1.

Table 5.1

OVERVIEW OF RESEARCH DESIGN

Teacher Groups	Attitude Survey Pretest January 1971	Experimental Treatment March-May 1971	Attitude Survey Posttest January 1972	Collective Decision Structure Posttest February 1972
R (7)	O_1	SF-PS-CD	O_2	OS_1
R (3)	O_3	SF - only	O_4	OS_2
R (7)	O_5		O_6	OS_3
R (7)			O_7	OS_4

The four-group design with randomization of schools to treatment conditions was selected for two main reasons. First, it controls for various threats to internal validity including history, maturation, instrumentation, regression, selection, mortality, and the interaction of selection and maturation (Campbell and Stanley, 199, pp. 6-8). The modified design, however, does not account for the reactive effects of testing and treatment, a threat to external validity. Pretesting may modify an individual's responsiveness to the experimental treatment and, as such, would differentiate the pretested sample from the unpretested

population. However, pretesting is inherent to the SF-Ps strategy; an assessment of the interaction between testing and the treatment therefore cannot be obtained because some type of pretest is required for feedback.

The second reason for adopting the design is that it assesses not only the effects of testing but also of a survey feedback only treatment. Our interest in the latter intervention stemmed from the observation that work attitude surveys are widely used by researchers in studies of organizational behavior and yet little is known about their subsequent effects on the client system. In some cases, as part of the tradeoff for permission to conduct the research, the findings are reported back to those who provided them. Much less frequently are the results used for systematic diagnosis and application for change by members of the client organization. An investigation of the impact of attitude survey testing and feedback only on the client system, particularly in the absence of subsequent systematic problem solving, therefore became an interesting ancillary issue examined in the study.

Additionally, the SF only group served as a "semi-control" group. The particular procedures used for feedback could have contaminated the teachers' responses to the posttest questionnaire. Observed attitude changes in the experimental group might be the result of some insight obtained while completing the questionnaire rather than problem solving or collective decision making activities. SF-PS-CD group and SF only group comparisons would control for this possible artifact.

In summary, the design established the conditions for estimating the effects of attitude survey administration (O), survey administration and feedback only (SF only), and survey administration, feedback, and problem solving within collective decision structures (SF-PS-CD). The same questionnaire used as the pretest was administered one year later as the posttest to assess any changes in teacher work opinions and attitudes. Teacher perceptions of collectivity and participation in decision making were measured on a posttest only basis (OS), following the work attitudes survey posttest.

It should be noted that teacher responses to the collective decision instrument might have been contaminated due to the administration of the posttest attitude survey one month earlier. Pressures for cognitive consistency not only act to increase an individual's acceptance of and satisfaction with decisions he has participated in making; they may also act to bring about some congruency in responses to concurrent questionnaires focusing on work attitudes and perceived participation. The problem is that these pressures for consistency may be greater in the latter case than in the former due to increased sensitization. We believe, however, that the situation would have been more serious had the decision making questionnaire had been administered prior to the attitude survey. We are currently conducting research to assess the relationship between

these two instruments; however, at this time, the reader is advised to be wary of this potential problem of veridicality.

The specific timetable for the study is given in Table 5.2

TABLE 5.2

TIMETABLE

Year	Months	Events
1970	September-December	Establish the administrative organization of the program: Policy Committees, Review Committees, and Program Groups.
1971	January	Administer the pretest work attitudes questionnaire and identify program leaders.
1971	February	Tabulate pretest results and train program leaders in SF-PS processes.
1971	March-May	Program leaders feed-back survey data in SF-PS-CD and SF only schools. Problem solving sessions initiated in SF-PS-CD schools.
1972	January	Administer posttest work attitudes questionnaire.
1972	February	Administer collective decision structure posttest.
1972	March-April	Examine program documents; interview program leaders and principals for data on collective decision processes and organizational effectiveness/innovativeness.

Specific Predictions

As noted above, the individual-natural work group hypotheses were investigated by means of questionnaire data and statistical procedures. To facilitate this analysis and to present a clearer statement of our expectations, general hypotheses three and four were subdivided into a series of testable predictions. These statistical predictions compare the mean scores obtained in each of the four groups of schools (SF-PS-CD, Sf only, Controls, and Posttest Controls) on both the attitude survey and the collective decision instrument. The organizational level hypotheses, investigated by means of interviews and documentary evidence, were not subdivided into specific predictions.

Hypothesis three states that teachers in the experimental schools would perceive greater participation and collectivity in school decision making as a result of the SF-PS-CD intervention. This general hypothesis led to the development of three statistical predictions based on group mean scores on the collective decision instrument.

First, we expected that the SF-PS-CD intervention would succeed in superimposing the collective decision structure to the extent that this new decision mechanism would be perceived as functionally operative by the teachers in the school. As such, we predicted that, at the end of the one-year experimental period, faculty members in the full treatment schools would perceive greater collectivity and participation in decision making than faculty members in control schools:

Prediction 3a: Collective Decision Making

(SF-PS-CD) $>$ (Controls)

Prediction 3b: Collective Decision Making

(SF-PS-CD) $>$ (Posttest Controls)

These predictions assume that natural collective decision processes may exist in the Control and Posttest only Control Schools. However, we anticipated that these ongoing collective processes would not be perceived as operative nor as effective as the superimposed structures in the SF-PS-CD schools.

The SF only treatment is not as powerful as the full intervention in that no provisions are made for faculty problem solving nor is any attempt made to superimpose a true complementary collective decision structure over the existing authority structure of the school. In the SF only schools, survey results are presented by the program leader to the teacher group in a single conference. The data are profiled in graphic

form and questions-and-answers between the leader and teacher participants are encouraged, but only to clarify and develop a technical understanding of the findings. The SF only meeting is not designed to elicit analysis and problem solving; the leader is not trained to conduct problem solving sessions, nor is he encouraged to do so even if the occasion "spontaneously" arises. Upon completion of the feedback session no further formal meetings are scheduled nor are any special communication channels or overlapping groups established between the teachers and school administrators.

In view of these considerations, we expected that teachers in SF-PS-CD schools would perceive greater collectivity and participation in decision processes than teachers in SF only schools.

Prediction 3c: Collective Decision Making

(SF-PS-CD) > (SF only)

General hypothesis four states that the attitudes of teachers toward their work environment will become more favorable as a result of the SF-PS-CD intervention. As the new procedures and structures are implemented in the school, the organization's ability to innovate and interact effectively with its external environment should increase. As a consequence of the combined effects of (1) more effective problem solving and innovative decision making and (2) higher participation, the teachers should become more satisfied with key dimensions of their work environment.

This general hypothesis suggested a number of statistical predictions, all of which could be tested with the group means generated by the four group attitude survey experimental design. First, we predicted that teacher work attitudes in the SF-PS-CD schools would become significantly more favorable over the one year experimental period:

Prediction 4a: Work Attitudes

[SF-PS-CD (posttest > pretest)]

Statistical prediction 4a fails to take into consideration teacher attitude changes in the control schools. If teacher attitudes in the non-treatment schools also became more favorable, the expected positive attitude change in the SF-PS-CD schools, by comparison, would be less meaningful. A more acceptable and vigorous test of hypothesis four involves the use of gain scores (differences between posttest and pretest means) for both experimental and control schools (see Campbell and Stanley, p.23). Applying a gain score t-test, we predicted that changes in teacher work attitudes would be significantly more favorable in the SF-PS-CD schools than in the control schools.

Prediction 4b: Work Attitudes

[SF-PS-CD (Posttest-pretest)] > [Controls (posttest-pretest)]

The theoretical model suggests that favorable changes in teacher work attitudes are the product of the combination of survey feedback with problem solving and collective decision making. The SF-PS-CD intervention brings about many more changes in an organization's functioning than does the survey feedback component alone. Task-oriented problem solving and the collective decision structures provide for solution generation at the faculty level, improved vertical communication, and the implementation of faculty-initiated changes. These factors, among others, are instrumental in bringing about favorable changes in faculty work attitudes. We therefore predicted that changes in teacher work attitudes would be significantly more favorable in in the SF-PS-CD schools than in the SF only schools. (This prediction also partially controls for the reactive effects of the survey feedback procedures.)

Prediction 4c: Work Attitudes

[SF-PS-CD (posttest-pretest)] > [SF only (posttest-pretest)]

A final statistical prediction for hypothesis 4 was generated in an attempt to control for the effects of testing. Campbell and Stanley note that " . . . the process of measuring may change that which is being measured." (p. 9) In reference to the pretest-posttest control schools, posttest mean scores may possibly have been affected by the administration of the pretest one year earlier. The posttest only control group provides a means for circumventing this potential threat to internal validity. In an effort to "check" hypothesis 4, we predicted that at the time of the posttest, teacher work attitudes in the SF-PS-CD schools would be significantly more favorable than those in the posttest only control schools:

Prediction 4d: Work Attitudes

[SF-PS-CD (posttest)] > [Posttest Controls (posttest)]

Exploratory Research Questions

The modified four group experimental design permitted an exploratory investigation of the effects of survey administration with feedback and of survey administration only. Group mean scores on the collective decision and teacher work attitude instruments were used to study these questions. All exploratory research questions are stated as null hypotheses and two-tailed t-tests are used for statistical testing. These null hypotheses are not as powerful or specific as the statistical predictions formulated above. We would like to emphasize, however, that the main purpose of this study was to assess major impacts of the SF-PS-CD intervention. Lower priority was given to the investigation of the exploratory research questions.

The first exploratory research question pertained to the perceptions of participation and collectivity in decision processes in the SF only schools. The SF only treatment provides for some collective evaluation but does not install the mechanisms necessary for stimulation, legitimation, or implementation. No special collective decision structures were superimposed; thus we did not expect that collective processes would be perceived to any great extent by the SF only faculties.

Nonetheless, the survey feedback experience could possibly effect teacher perceptions of collective decision making in at least two other, somewhat contradictory, ways. First, the survey feedback experience might increase teacher interest in school problem solving and raise the preferred level of faculty participation in decision making. These heightened expectations, coupled with the absence of new mechanisms for increased participation or collectivity, might tend to depress perceptions of collective decision making in these schools. On the other hand, the SF only session provides for teacher sensitization to school problems and needs. This heightened awareness may stimulate greater faculty participation in the school's authority decision processes. Similarly, the survey feedback could improve the functioning of any ongoing collective decision procedures in the school. These effects would tend to create more favorable perceptions of school collective decision processes and tend to inflate the group's mean scores.

To examine these contradictory consequences, SF only group means were compared to control school and posttest only control school group means.

Exploratory Question 3a: Collective Decision Making

(SF only) = (Controls)

Exploratory Question 3b: Collective Decision Making

(SF only) = (Posttest Controls)

The consequences of survey feedback on teacher work attitudes raised another question for exploratory research. The survey feedback experience tends to heighten teacher awareness of specific school problems and needs. As noted above, the SF only intervention makes no formal provision for systematically dealing with these identified problems and needs. To the extent that teacher expectations and perceived opportunities for problem solution and needs gratification are raised and subsequently not met, we would expect teacher work attitudes to become less favorable. Alternatively, the quantitative internal feedback could change teacher attitudes favorably if some effort were made by the administrations or faculty to solve identified problems. However, we would expect that these favorable changes would probably be shortlived. The SF only component does not provide for the enduring change supporting structures necessary for sustained improvements in organizational health. In any case, it is questionable whether the effects of the SF only intervention on teacher attitudes, either positive or negative, would be significant one year later.

Three specific exploratory research questions were generated from this line of reasoning:

Exploratory Question 4a: Work Attitudes

[SF only (posttest = pretest)]

Exploratory Question 4b: Work Attitudes

[SF only (posttest-pretest)] = [Controls (posttest-pretest)]

Exploratory Question 4c: Work Attitudes

[SF only (posttest)] = [Posttest Controls (posttest)]

A final exploratory research question focused on the consequences of attitude survey administration in organizations. To investigate this question, the control group's posttest means are compared with the posttest means for the posttest only control group. The "treatment" in this case is the pretest survey administration.

Exploratory Question 4d: Work Attitudes

[Controls (posttest)] = [Posttest Controls (posttest)]

To the extent that attitude surveys increase the salience of unfavorable work attitudes, it is possible that questionnaire respondents may become frustrated because they are unable to take remedial action on identified problems and needs. If the data indicate that survey administration has dysfunctional consequences, systematic feedback and problem solving should then become an integral part of attitude measurements undertaken in organizations, regardless of the other purposes for obtaining the data. It is possible, of course, that survey administration may increase the salience of favorable teacher work attitudes.

Population and Sample

In accordance with the study's design, we sought the cooperation of elementary and junior high schools whose teacher groups would participate in this research. A total target population of forty-eight schools was located in three relatively large and four smaller public school districts situated in four counties of northern Illinois. The superintendents of these districts were contacted and sanctioned conduct of the study contingent upon our gaining the cooperation of the affected principals and faculties.

The principals and their respective teacher groups were approached and agreed to cooperate in the research without prior knowledge of assignment to one of the four experimental conditions. From this experimentally accessible population, twelve schools were designated as SF-PS-CD, twelve as SF only, twelve as pretest-posttest controls, and twelve as post-test only controls on the basis of random assignment.

Subsequent to the decision to participate in the study, unforeseen financial constraints and teacher work load considerations arose in the two largest districts. This led to the withdrawal of all the schools of these districts from the study by formal action of their superintendents. The sample thus was depleted by one-half --from forty-eight to twenty-four schools.

The principals and faculties in the remaining schools had been informed of their assignments to treatment conditions; those in the SF-PS-CD and SF only schools had already begun preparations for program activities. We felt at this point that a re-randomization and reas-assignment of these schools to possibly different treatment conditions would be disruptive to school planning and might result in further mortality of schools in the sample. We therefore elected to carry on the research with the remaining schools in accordance with their original random assignment to treatment conditions. The final research sample was comprised of the teacher groups in these twenty-four schools as follows: seven SF-PS-CD schools; three SF only schools; seven pre-test-posttest control schools; and seven posttest only control schools.

Geographically, the five remaining districts were located in four northern counties of Illinois (DuPage, DeKalb, Winnebago, and Cook). In the main, these communities can be characterized as predominately white and middle-class. Four of the schools served pupils from working-class neighborhoods; three were located in communities populated by a mixture of working-class, white-collar, and university faculty members and their families. The remaining seventeen schools were populated by pupils from families whose main breadwinners worked in managerial-professional-technical occupations.

Financial conditions in these districts were relatively stable; however, all the districts were beginning to feel the pinch of a burgeoning "taxpayer revolt" in the form of resistence to increases in school expenditures. Two of the districts had tax or bond referenda voted down in the year or two prior to the time of the study.

Our study focused on elementary and junior high schools. Two schools were K-8, four were K-6, and the remaining eighteen were K-5. Average pupil enrollment ranged from 300 to 850 students with a mean of 550.

Faculty size for the schools ranged from fifteen to forty-one teachers with a mean of twenty-two. All of the teachers in the sample schools held the bachelor's degree; approximately 10 per cent of the group had achieved a master's degree. Average length of service in their current schools was 3.5 years; total years of experience as a teacher averaged nine years. Teacher turnover for the twenty-four schools in the year prior to the research averaged 22 per cent.

In addition to fulltime teachers, each of the districts employed specialists in such areas as learning disabilities, hearing handicaps, giftedness, speech therapy, librarianship, reading consultation, physical education, art, and music. Average per pupil expenditures for the districts in the year the study was conducted were $738, $781, $824, $1,035, and $1,243. (For comparison purposes, the mean per pupil expenditure for neighboring Chicago Public Schools was $845.) All five districts had formalized professional negotiation arrangements (NEA-type agreements) between their school boards and teacher groups.

Data and Instrumentation

Two types of data were obtained in order to test the hypotheses of the study. For the organizational level hypotheses (H1 and H2), written records and reports were analyzed and semi-structured interviews were conducted with the ten principals and ten program leaders in the SF-PS-CD and SF only schools. The data we collected were designed to assess, both objectively and subjectively, the extent to which collective decision structures and change supporting structures (1) were implemented and became fully functioning in the school, (2) complemented the existing school authority structure, and (3) increased general school organizational effectiveness and innovativeness.

In the interviews the principals and program leaders were asked to describe any recommendations made, the extent to which these were implemented, and other changes in the school which, in their view, were instituted directly and primarily as a result of the program. The interviewees were asked to provide specific examples and instances of events which tended to support their responses to questions. The same schedule was employed in interviewing both the principal and program leader in each of the experimental schools. The perceptions of the program leader were assumed to reflect the norms of his school faculty and therefore provided a consensual check on the principal's responses to questions.

An attempt was made to establish a "fact-oriented" interaction between interviewer and interviewee, one which stressed objectivity. A prepared, but flexible, interview schedule was followed and questions were asked in reportorial style with notetaking (see Appendix C). Whenever appropriate, the interviewee was asked if documents pertaining to school changes were available for examination. Program leaders and principals were interviewed on different days. The interviews lasted for approximately one hour and were conducted off-campus at a centrally located motel.

In reference to the individual-natural work group level hypotheses (H3 and H4), the data dealt with (1) teacher perceptions of participation and collectivity in school decision making processes and (2) teacher attitudes toward important aspects of their work environment. Data on teacher perceptions of participation and collectivity were obtained through the use of a questionnaire constructed especially for this research. The construction of this scale was based upon the collective decision rationale provided in Chapters II and IV.

The instrument--entitled Group Problem Solving in Schools--is a sixty-eight item, self-reporting audit designed to reflect respondents perceptions of both experimentally-introduced and natural ongoing collective decision processes in schools. The instrument is divided into seven sections with each category corresponding to a specific stage of the collective decision process. The individual items focus on structural, technological, human, and task considerations.

1. Evaluation items pertain to the faculty's perceived role in the specification of school problems and the availability of mechanisms for group problem identification.

2. Stimulation focuses on teachers' interest in solution generation, the productivity of faculty meetings, and their perceived opportunity to solve problems.

3. Internal diffusion items refer to the quality of communications in the organization, faculty awareness of proposed changes, and barriers in communication.

4. Legitimation items focus on factors necessary for the effective coordination of dual decision structures, including vertical communication, sanctioning of faculty-initiated proposals, and the clarity of organizational roles and responsibilities.

5. Adoption statements pertain to the quality of solutions, the degree of acceptance, and the planning for change.

6. Implementation items focus on the frequency of innovation execution, innovation dissonance, and communication regarding the success or failure of new programs.

7. The routinization catagory includes items on the dysfunctional consequences of change, the continuation of new programs, and the faculty's control over organizational change.

Each category contains between six and sixteen items. For each statement in the audit the respondent is instructed to check along a three-point scale either "Agree," "Undecided," or "Disagree." Approximately half of the statements are worded positively and the other half negatively. A favorable response--the one which is congruent with the theoretical framework undergirding the instrument--is sometimes "Agree" and sometimes "Disagree," depending on how the item is worded.

Although the questionnaire was developed for the evaluation of the SF-PS-CD intervention, it was constructed to be as general as possible. References to survey feedback, task-oriented problem solving, and the intervention itself were avoided. The respondents, whether members of experimental or control schools, had not previously been exposed to the questionnaire's theoretical terminology (e.g., evaluation, stimulation, etc.). The instrument was pilot-tested by teachers and administrators not associated with the experiment or the sample schools. The items were sufficiently general so that they could be answered by teachers in any elementary school.

Data on teacher work attitudes were obtained through the use of the School Survey (Coughlan, 1969). This is a 120 item, self-reporting inventory which reflects the opinions and attitudes of the respondents toward the following dimensions of their work environment:

Factor 1 - Administrative Practices assesses the teacher's perceptions of board-administration-teacher relationships. It includes his evaluation of the technical, administrative, and interpersonal relations aspects of the work at the executive level of the system.

Factor 2 - Professional Work Load is concerned with the amount and variety of professional work the teacher is required to do. Also included are items dealing with the concern and cooperation given the teacher by the administration in relation to work load.

Factor 3 - Non-Professional Work Load relates to the teacher's opinions concerning the amount and type of non-professional duties to be performed as well as with administrative efforts to reduce this type of work.

Factor 4 - Materials and Equipment provides information on the teacher's opinions concerning the selection, quality, quantity, and use of instructional materials, aids, and equipment in the school.

Factor 5 - Buildings and Facilities pertains to the physical working conditions within and immediately surrounding the school. It also measures the teacher's feelings about the adequacy of facilities and administrative interest in improving them.

Factor 6 - Educational Effectiveness deals with the teacher's perceptions of the effectiveness of the school program in meeting the developmental needs of students and the support given the school by members of the community.

Factor 7 - Evaluation of Students measures the teacher's attitudes toward student evaluation and reporting procedures. Also included are the school's policies governing promotion, retention, and the provisions made for teacher-student consultation following reporting periods.

Factor 8 - Special Services asks whether the school provides special services which are adequate to meet the needs of students. It deals with both the availability of programs and with interpersonal relations between teachers and special service personnel.

Factor 9 - School-Community Relations reflects the teacher's understanding of the roles of the board, administration, and community in school system operations. It seeks his opinions as to whether existing relations are adequate to provide an effectively-functioning school system.

Factor 10 - Principal Relations is concerned with the teacher's evaluation of his principal as a group leader. It focuses on work organization and improvement, communication effectiveness, and supervisory practices dealing with the work problems and potential of the teacher.

Factor 11 - Colleague Relations deals with the friendliness of teachers and with social relations between cliques and groups in the school. It is concerned primarily with social relations.

Factor 12 - Voice in Educational Program measures the teacher's satisfaction with his degree of involvement in designing and developing the school's educational program. It deals with procedures for curriculum construction, selection of materials, and feelings of freedom to innovate and experiment.

Factor 13 - Performance and Development assesses the effectiveness of procedures used to evaluate teacher performance and stimulate the professional growth of teachers in the system.

Factor 14 - Financial Incentives reflects the teacher's attitudes toward the school system's salary and benefits program and its administration.

Factor 15 - Reactions to Survey measures the teacher's evaluation of the attitude survey process as a means of communicating with the administration and getting action on problems.

Each of the above categories contains from seven to ten items. In previous investigations the items were evaluated with respect to their discriminatory power, relevance, and clarity and then classified through two independent factor analyses into the fifteen categories (Coughlan, 1970). KR-20 internal consistency reliability coefficients for category scores (subscale reliabilities) range from .44 to .80 with a median of .67. The respondent checks each item along the three-point scale: "Agree," "Undecided," or "Disagree." The percentage of favorable responses on any particular statement served to indicate the degree of positive feeling among respondents on that dimension.

Program Leaders

Program leaders in the SF-PS-CD and SF only schools were selected by the faculties of their respective schools at the time of the pretest attitude survey administration. The teachers were instructed to print the names of three teachers or special service personnel on the faculty of their school whom they felt would be best qualified to conduct feedback and problem solving sessions. They were asked to exclude among the candidates their principal or any other administrators, supervisors, or consultants in the school or school district. Their choices were to be based on two personal and social criteria: the nominees should have (1) the trust, confidence, and respect of fellow teachers in the school, and (2) the requisite skills, or potential for developing these skills through training, for effective leadership in group feedback and problem solving. (See Appendix D.)

CHAPTER VI

COMPARATIVE FINDINGS

The hypotheses and statistical predictions generated at the beginning of this research were generally substantiated. An analysis of program documents and interview data obtained from principals and program leaders in the SF-PS-CD schools seemed to confirm our organizational level hypotheses (1 and 2). These hypotheses were stated as follows:

H1: Teacher collective decision and change-supporting structures will be routinized in a manner complementary to the existing authority structure of the school.

H2: The collective decision and change-supporting structures will increase general school organizational effectiveness and innovativeness.

In investigating these hypotheses, we made no attempt to compare the SF-PS-CD school findings with control school data. As such, our results at this level are tentative. Hypotheses 1, concerning the superimposition of complementary collective decision structures, is discussed by means of a process evaluation and structural analysis. Data supporting Hypothesis 2, concerning organizational effectiveness and innovativeness, are presented in terms of selected "organizational health" dimensions.

Our program evaluation efforts and research design concentrated more fully on the individual and group level hypotheses (3 and 4). These were formulated as follows:

H3: Teachers will perceive the collective decision and change-supporting structures as affording them greater participation in and influence over school decision making processes.

H4: As a consequence of H1, H2, and H3, the opinions and attitudes of the teachers toward important aspects of their work environment will become more favorable.

Relatively objective questionnaire data are presented which support the statistical predictions presented in the previous chapter. The findings provide moderate support for Hypotheses 3, focusing on teachers' perceptions of collectivity and participation. Questionnaire data strongly support Hypothesis 4, revealing that significant favorable attitude changes in teacher work attitudes occurred in the SF-PS-CD schools. Similar data were used to investigate the exploratory research questions. However, no significant findings were uncovered in examing data related to these questions.

Hypotheses I

Interview data and documentary evidence seemed to substantiate the first organizational level hypothesis. In the majority of the seven SF-PS-CD schools, teacher collective decision and change-supporting structures were institutionalized in a manner complementary to the school's existing authority structure. Collective structures were routinized to a satisfactory extent in four schools and to a moderate degree in one school. In a sixth school, the new structures were established, but they were not perceived to be entirely complementary to the authority structure. Collective decision processes were not successfully initiated in only one experimental school.

The resulting change-supporting structures will be discussed in terms of selected dimensions for organizational analysis. Certain structural modifications were hypothesized to be effects of the SF-PS-CD intervention in the theory chapter. Structural changes in the treatment schools occurred in the predicted directions. The magnitude of these changes was related to the extent to which the experimental schools adopted the survey feedback, problem solving, and collective decision procedures. In discussing the first hypothesis, a process evaluation will be followed which focuses on the quality and the extent of collective decision making activities experienced in the experimental schools.

The SF-PS-CD intervention brought about changes in the structural configuration of most of the experimental schools. In six schools, the faculties were organized and deemed to be effective problem solving groups. Program Group structure generally conformed to the intervention guidelines. In five schools, faculty members elected their program leaders. In the remaining school, a staff specialist was appointed by the principal as program leader for the first year and faculty members elected a teacher for the second year of the program.

A Policy Committee was established at the district level in all three cooperating districts. However, program activities reached the Policy Committee in only one district. For the most part, the SF-PS-CD process was carried out at the school building level by the Program Groups and Review Committees. At this level, the vertical communication networks and reporting systems established by the overlapping group structure were regarded as functionally operative.

The superimposition of the overlapping decision structure was generally successful at the building level. Review Committees were established and used in five SF-PS-CD schools. Program guidelines recommended that (1) the school principal, program leader, and program secretary should serve members of the Review Committee, and (2) the principal should appoint at his discretion an additional person to serve on the committee.

As expected, the membership of the Review Committee varied in the five schools. In two schools, the committee consisted of the principal, program leader, program secretary, and an assistant superintendent. In one school, committee members included the principal, staff specialists (appointed program leader), faculty group secretary, and a teacher representative. A steering committee was formed by the Program Group in one school; members of this group met with the principal and a principal-to-be for the following year for program review purposes. In another case, the Review Committee was composed of the principal, program leader, a building representative, and building coordinator. A parent was also invited to serve as a member of the Review Committee in one of the schools. No Review Committee was established in the sixth school, but in this case the principal and program leader did meet formally to discuss Program Group activities.

A number of secondary changes in structural configuration resulted from the intervention. In one school, nine teacher subcommittees were formed to deal with key identified problems and needs in the following functional areas: reading, testing, student teaching, school goals, professional standards, curriculum advisory, medical advisory, and drug advisory. Other secondary configuration changes were reported in the remaining five schools. These generally took the form of sub-committees, special assignment teams, or temporary systems similar to those listed above. The changes produced refinements in both vertical and lateral work relations, increases in the number of levels and "positions" held by teachers by virtue of their assignments to committees, and increases in the number of different jobs within each of the committees. Accompanying these modifications was the development of status rankings associated with leadership or coordination roles performed in sub-committee assignments. The resulting changes in the shape of the formal school organizational structure also brought about related changes in the pattern of workflow.

Interview data indicated that the program brought about increased standardization in both work roles and procedures in the SF-PS-CD schools. More specifically, the intervention effected the standardization of collective decision making procedures in five schools, and to a lesser extent, in the sixth SF-PS-CD school. As examples of these changes, decision-seeking and decision-making activities at the technical core level were regularized and legitimized; roles for Review Committee members were defined and delineated; committee operations were specified and became standard operating procedures. The task-oriented problem solving guidelines were adopted and practiced in six Program Groups. Program leaders reported that the guidelines defined a qualitatively different type of faculty meeting than had been conducted at their schools in the past. Faculty members generally cooperated with the Program Leaders in initiating the new problem solving procedures, and in most cases, change-supporting norms began to emerge. There was, however, an identifiable transitional or "change-over" period during which the faculty members had to adjust themselves to the relatively structured task-oriented group procedures.

The program's specification of new roles effected a greater division of labor within four schools. In these organizations, the program leaders were designated as Chairmen of the Review Committees. This resulted in the creation of a new specialized role in the school, one that had been defined by the SF-PS-CD program and validated by both the principal and Program Group. In one school, the Program Group began to approximate a faculty cabinet or self-governing body. In this instance the Program Group eventually merged its activities with those of the Review Committee. This in turn led to an increase in the number of specialisms within the faculty, i.e., teachers begun to perform semi-administrative functions in school operations.

Greater formalization of school activities was evidenced in the development of documents related to the program. Three schools followed the written procedures suggested in the program design to record group activities. These records became part of a file established by the Review Committee in the principal's office. In one school, statements on program roles and procedures dealing with decision-seeking, conveying of decisions and actions, and conveying information were written and filed. All seven experimental schools exhibited greater formalization at the collective evaluation stage--survey feedback was documented and presented in the manner prescribed.

In six schools there was considerable evidence to indicate that the locus of authority to make decisions affecting the life of the school shifted downward from the administrative (principal) to the technical core (teacher) level. The "real or personal" authority of the program leaders became "formal or institutional" as a result of the program structure. Rules governing decisions, i.e., how recommendations and suggestions emerging from the Program Groups were to be handled, were developed at the faculty level and approved by the Review Committee.

The frequency and thoroughness of review procedures varied among the schools. Generally, the Review Committees met for periods of approximately two hours subsequent to Program Group meetings to discuss group reports and recommendations. At these meetings additional relevant information for testing decisions and evaluating recommendations was made available to members of the committee. In some instances this information was heretofore unavailable to the teachers on the Committee. Control over program activities and introducing changes and innovations resided largely within the Program Groups. Formal authorization or legitimation was, as expected, mandated at the Review Committee level.

These observations suggest that decentralization primarily involved evaluation and stimulation activities in the intervention process. Program procedures for the transmission and/or legitimation of decentralized collective solutions were rated effective in five schools. There also was evidence that the Program Groups in these schools implemented certain types of changes without formal administrative approval. In some schools, Review Committee members specified which types of decisions did not require legitimation. This would imply that some decentralization of the actual decision function actually occurred.

The interview data also were examined to assess the extent to which the decentralized collective decision making and change-supporting structures complemented the existing authority structure at the school. In examining this proposition heavy reliance was placed on the perceptions of the principals. The dual decision structures were perceived as competitive in only one experimental school. In this case, a principal was assigned to a school in the midst of ongoing SF-PS-CD activities. The new administrator felt that he should retain authority over certain decisions which he found were being made by the collective decision group. Principals in the other six experimental schools reported that the program complemented ongoing authority processes. Three principals felt that the program identified and dealt with problems which were not being considered adequately in prior decision processes. Five principals formally located many of the school's actual decision making functions at the technical core level through Program Group operations. The range of choice emerging at this level dealt with such cricical organization decisions as control over school resources, activities, and the introduction of change and innovations.

Hypothesis 2

Hypothesis 2 states that the experimental change intervention, by establishing collective decision structures and applying survey feedback and group problem solving techniques, would bring about increased school organizational effectiveness and innovativeness. To determine the degree of support for this hypothesis, we examined interview data and documents associated with the program in terms of selected second-order system properties which purportedly contribute to the notion of "organizational health" (Miles, 1965). Our findings indicate that the SF-PS-CD intervention succeeded in bringing about improvements in the health of the full treatment schools. As such, we have tentatively accepted the hypothesis. Final confirmation would be contingent upon the findings of a longitudinal study focusing on more objective indices such as cost effectiveness analyses, input-output ratios, and innovativeness scales.

The SF-PS-CD intervention probably made its greatest contribution to the communication adequacy of the schools. Improvements were noted by principals and program leaders in both upward and downward communication. Regarding downward communication, five principals said that the program enabled them to communicate more effectively with their teachers concerning a wide range of administrative decisions, actions, and viewpoints. These administrators welcomed the opportunity afforded by the program structure to offer more detailed explanations for current school programs and procedures and for proposed changes which they felt could not be implemented feasibly. The regularized communication channels established by the overlapping groups design provided them an additional "track" to communicate with their staffs and to receive staff reactions to the reasons they gave for the status of current programs or for failure of the Review Committee to approve proposals, recommendations, and changes. Improvements in the quality, regularity, and relevance of downward communication were generally recognized by the program leaders. The questionnaire data also indicated that faculty members perceived improvements in downward communication.

Review Committee meetings provided an important mechanism for the upward transmission of information. In the opinions of both principals and program leaders, these meetings were productive, orderly, and personally gratifying. Four principals mentioned as especially satisfying the receipt of orderly, well-written reports of Program Group activities which were presented to the Committee for analysis and discussion. The systematic recording of discussions, careful identification and delineation of problems, reasoned diagnosis and analysis for causal factors, and evidence of having thought through alternative proposals before deciding on the "best solution" added impact and face validity to the recommendations emerging from the Program Groups. The principals reported that they were usually aware of the problems identified by the work attitudes survey and Program Group discussions.

Nonetheless, they were impressed by the thoroughness with which problems were analyzed and with the array of possible solutions presented for their remedy. Finally, the questionnaire data indicated that teachers in the SF-PS-CD schools, as opposed to those in control schools, felt that: (1) their principals more often solicit their ideas and (2) their supervisors have a more realistic view of the faculty's work situation.

A healthy organization is characterized by optimal power equalization (Miles, 1964, p. 19). While it is doubtful that an "optimal" distribution of power between the administration and faculty was achieved, there was strong evidence that the program did effect a more equitable distribution of influence in the SF-PS-CD schools. The problem solving meetings generally succeeded in (1) locating the discussion of relevant school issues at the faculty level and (2) providing a mechanism which increased faculty influence over decisions affecting their work lives. In six schools, the collective decision structure decisively increased the amount of upward influence from the faculty level to the administrative level. As noted earlier, certain principals perceived the need for "power equalization" toward which the program was moving at the end of the experimental period.

In moving toward a redistribution of power, the program seemed to improve resource utilization as faculty members were afforded the opportunity to use their expertise and experience to solve school problems. Program leaders noted that the emphasis on total group involvement succeeded in evoking the participation of isolated or "quiet" teachers on their faculties. Both principals and program leaders felt that the program " . . . encouraged more involvement of the total staff," "made the faculty feel an important part of the whole situation," and "increased feelings of involvement." Resource utilization also implies that organizational members experienced "a genuine sense of learning, growing, and development" (ibid.); program leaders indicated that most of their fellow faculty members "gained" from their experience. They also emphasized the importance of the program to their own sense of personal growth and development. More specifically, they testified that the program had provided them with valuable training and experience in group leadership. They felt that their experiences as group leaders should be provided all teachers in the school by rotating the role among the faculty on an annual basis. The program leaders emphasized the need for off-the-job training to carry out this role effectively.

In almost every case, principals and program leaders mentioned that the program increased group cohesiveness in the faculty. Representative remarks included: "Better staff relationships with total group involvement in the solving of problems;" " . . . created a closeness among faculty;" and "created unity among the faculty." Change supporting norms such as collaboration and cooperation were observed to develop as predicted. At the behavioral level, one principal noted that there was " . . . more cooperation among the staff."

The above comments were elicited by an interview question relating to teacher morale. Hypothesis 4 data, which focuses specifically on changes in teacher attitudes toward important aspects of the work environment, indicate that faculty attitudes in the SF-PS-CD schools become significantly more favorable. Five principals testified to changes in teacher attitudes and behavior which they felt had increased school organizational effectiveness. These observations were corroborated by evidence obtained from the program leaders of these schools. The most significant changes seemed to revolve around teacher-principal and teacher-teacher relationships. The data indicated that the program committee structure enabled both the teachers and administrators to develop a better understanding of school problems from the teaching and administrative viewpoints. Thus the program seemed to enhance the empathy of both teachers and administrators by giving them greater insight into problems and pressures as perceived from these two different status levels in the school.

Interviewees also indicated that the program increased feelings of trust and confidence within the teacher group and between the teacher group and school administration. Teachers begin to express more favorable attitudes toward administrative and central office personnel. The respondents felt the faculty had gained a higher awareness of overall district problems and that as a result there was higher understanding and acceptance of current administrative thinking and action as well as of new ideas, programs, and procedures.

The intervention was designed specifically to improve the problem solving adequacy of the school, another second order system property. Again, interview data and documentary evidence indicated an improvement along this dimension. Five program leaders stated that the problem identification and solution generation guidelines were effective. In fact, some group leaders were "pleasantly surprised" to discover that they were able to lead their groups "so effectively" and that the task-oriented procedures worked as well as they did. Interviewees noted that the program succeeded in "getting problems out in the open" and provided for problem analysis and solving "through group processes." A review of program documents showed that the faculties tackled some relatively difficult problems. In one school, in particular, documentary analysis revealed highly sophisticated problem solving within the teacher work group and extensive use of the vertical communication channels.

Another functional consequence of the intervention was that it facilitated administration-faculty conflict resolution. The program managed to bypass the formalized professional negotiations structure which the principals viewed as an impediment to creativity and innovation in school programs and procedure. The principals felt that "professional matters" such as decisions related to curriculum and instruction should not be subject to collective negotiations and that the SF-PS-CD process provided a regularized channel for teacher involvement in these matters without the penalties associated with hard bargaining.

The collective decision structures and the improved problem solving adequacy seemed to increase innovativeness in the SF-PS-CD schools. Again, this finding is based on perceptions rather than objective data and as such should be regarded as tentative. Nevertheless, our interview findings indicated that specific and significant changes occurred in six of the seven SF-PS-CD schools apparently as a direct result of the program. In the considered opinion of the respondents these changes had made overall school operations more efficient and effective. Examples of such changes were as follows:

1. New student discipline guidelines were developed and implemented.

2. A teacher appraisal and evaluation form was developed and installed.

3. A teacher-administrator committee developed and monitored a modular scheduling program.

4. Teachers assumed responsibility for making assignments regarding playground, lunch, and bus duty.

5. Teachers selected their own extra-curricular activities.

6. The school district granted a "growth credit" to those faculty members who participated in program activities.

7. School faculty meetings were no longer conducted on a weekly basis and faculty attendance was no longer mandatory. Included in this change were specific recommendations for the improvement of faculty meetings.

The program apparently was more successful in facilitating the implementation of internally-generated changes than the adoption of externally-generated innovations. There was little evidence that the intervention significantly increased the schools' interaction with outside knowledge producing organizations or permanent linking systems. For example, the process did not produce any additional "temporary change systems" which would have provided for further interaction between teachers and outside specialists. Mainly for this reason the program did not alter appreciably the technology of the experimental schools.

On the positive side, the program did seem to have positive effects on faculty attitudes toward internally generated change. One school's program leader stated that faculty members now felt that they could "really become change agents." Another program leader said that she and her faculty now had "increased faith in what groups can accomplish." The program permitted faculty work groups to specify change goals and provided a mechanism for reaching those goals. As faculty members perceived greater control over change, they seemed to accept new procedures more readily.

Certain principals used the collective decision configuration to increase faculty participation in the schools' authority decision processes. This increased participation also acted to improve the faculty's attitudes toward change. One principal noted that the early presentation of new ideas to the faculty work group resulted in quicker acceptance of those ideas. This same principle utilized the collective decision mechanism on a regular basis--the faculty group set aside five minutes at the beginning of each weekly meeting so the principal could present problems and act as his consultant.

In conclusion, the intervention succeeded in establishing enduring change-supporting structures in five of the experimental schools. By increasing organizational flexibility and adaptiveness, these structures were perceived as having been instrumental in increasing organizational health, innovativeness, and effectiveness. The program, of course, was not without its weaknesses. Some of these shortcomings will be discussed in the final chapter.

Hypothesis 3

Our statistical findings tended to support the hypothesis that teacher perceptions of participation and collectivity in school decision processes would be greater in the SF-PS-CD schools than in the control and SF only schools. Three predictions were tested by means of a statistical analysis of data collected through the use of the Group Problem Solving in Schools questionnaire administered to the teachers on a posttest only basis. Seven mean category scores and an overall mean score were computed for each school in the four experimental conditions. These scores represent the averages (for each school) of the individual item scores for each category and were stated in terms of "percent favorable respones." The unit of analysis was the faculty of a school building since schools, rather than individual teachers, had been randomly assigned to the four treatment conditions.

A series of one-tailed t-tests, comparing SF-PS-CD group means with other treatment condition group means, were performed to test the three predictions subsumed under the hypothesis. The direction of difference between means was stated in each case. In this section, each prediction comparing experimental and control groups will be followed by tables which provide appropriate mean scores in terms of percent favorable response, their respective standard deviations (both rounded off to two decimal places), the obtained t value (rounded off to three decimal places), and significance levels for the overall scores and for each of the seven dimensions measured by the instrument. A minimum .05 level of significance was used throughout the study to accept or reject predictions. (Note: F-tests indicated that category group variances could be assumed equal in twenty-two out of twenty-four cases).

We predicted first that, at the end of the one-year experimental period, faculty members in the full treatment schools would perceive greater collectivity and participation in decision making then faculty members in control schools.

Prediction 3a: Collective Decision Making
(SF-PS-CD) > (Controls)

Table 6.1 shows the results for the SF-PS-CD experimental and pretest-post control schools. The overall scores indicate that the teachers in the experimental schools perceived significantly greater collectivity and participation in school decision making ($p < .05$). Category scores reveal that these differences relate to significantly greater Stimulation of interest in new ideas and solutions ($p < .05$), Adoption of innovations and suggestions ($p < .05$), Implementation of new programs and procedures ($p < .01$), and Routinization of changes with the school's standard operating procedures ($p < .005$).

TABLE 6.1

TEACHER PERCEPTIONS OF SCHOOL COLLECTIVE DECISION MAKING
(SF-PS-CD) > (Controls)
(Per cent Favorable Response)

Teacher Perceptions of:	SF-PS-CD Schools M	SF-PS-CD Schools SD	Control Schools M	Control Schools SD	t
1. Evaluation	67.56	7.72	61.03	17.78	.866
2. Stimulation	67.53	10.43	51.38	15.61	2.078 *
3. Internal Diffusion	60.36	11.31	49.96	17.21	1.224
4. Legitimation	55.49	9.97	47.20	17.79	1.009
5. Adoption	60.34	10.21	46.75	11.67	2.024 *
6. Implementation	57.59	6.94	40.65	13.21	2.844 **
7. Routinization	68.37	15.13	36.10	11.73	3.654 ***
8. Overall	62.47	9.20	49.30	13.86	1.915 *

* $p < .05$
** $p < .01$
*** $p < .005$

df=9

The next prediction involves a comparison of scores between teachers in the SF-PS-CD schools and the posttest only control schools.

Prediction 3b: Collective Decision Making
(SF-PS-CD) > (Posttest Controls)

Table 6.2 presents the findings for the SF-PS-CD schools and the posttest only control schools. The overall scores for both groups indicate no significant differences in perceived collectivity and participation in school decision making. An examination of the category scores shows that differences in means are in the predicted direction; however, they fail in each instance to reach the .05 level of significance.

TABLE 6.2
TEACHER PERCEPTIONS OF SCHOOL COLLECTIVE DECISION MAKING
(SF-PS-CD) > (Posttest Controls)
(Per cent Favorable Response)

Teacher Perceptions of:	SF-PS-CD Schools		Posttest Control Schools		
	M	SD	M	SD	t
1. Evaluation	67.56	7.72	62.20	13.09	.917
2. Stimulation	67.53	10.43	57.98	13.06	1.467
3. Internal Diffusion	60.36	11.31	54.68	15.22	.771
4. Legitimation	55.49	9.97	56.85	19.16	- .165
5. Adoption	60.34	10.21	53.65	13.01	1.040
6. Implementation	57.59	6.94	48.62	15.65	1.374
7. Routinization	68.37	15.13	50.98	21.28	1.719
8. Overall	62.47	9.20	55.73	14.33	1.026

* $p < .05$

** $p < .01$ df=11

*** $p < .005$

We predicted also that teachers in the SF-PS-CD schools would perceive greater collectivity and participation in decision processes than teachers in SF only schools.

Prediction 3c: Collective Decision Making
(SF-PS-CD) > (SF only)

Table 6.3 shows the comparative results for the SF-PS-CD schools and the SF only schools. The overall scores indicate that the teachers in the SF-PS-CD schools perceive significantly greater collectivity and participation in school decision making ($p < .005$). Significant differences occur on all dimensions measured by the instrument: Evaluation of school performance and identification of problems ($p < .005$); Stimulation of interest in new ideas and solutions ($p < .05$); Internal Diffusion of ideas or proposals ($p < .01$); Legitimation or formal approval of innovations and faculty ideas ($p < .01$); Adoption of innovations and suggestions ($p < .05$); Implementation of new programs and procedures ($p < .005$); and Routinization of changes ($p < .01$).

TABLE 6.3

TEACHER PERCEPTIONS OF SCHOOL COLLECTIVE DECISION MAKING
(SF-PS-CD) > (SF only)
(Percent Favorable Response)

Teacher Perceptions of:	SF-PS-CD Schools M	SF-PS-CD Schools SD	SF Only Schools M	SF Only Schools SD	t
1. Evaluation	67.56	7.72	48.63	6.30	3.711 ***
2. Stimulation	67.53	10.43	52.57	7.39	2.221 *
3. Internal Diffusion	60.36	11.31	39.53	3.82	3.025 **
4. Legitimation	55.49	9.97	36.07	6.90	3.027 **
5. Adoption	50.34	10.21	43.73	4.34	2.645 *
6. Implementation	57.59	6.94	38.37	2.80	4.516 ***
7. Routinization	68.37	15.13	41.80	3.42	2.913 **
8. Overall	62.47	9.20	43.47	2.19	3.425 ***

* $p < .05$
** $p < .01$
*** $p < .005$

df=8

Hypothesis 4

The fourth and final hypothesis of this study dealt with the attitudes of teachers toward their work environment. The proposition that teacher work attitudes would become significantly more favorable as a result of the SF-PS-CD intervention was substantiated. This hypothesis was examined by means of a statistical analysis of data collected through the use of the School Survey questionnaire administered to teachers on a pretest and/or posttest basis. Fifteen mean category scores and an overall mean score were computed for each school at the beginning and end of the intervention (excepting the posttest only group). Pretest and posttest mean scores and standard deviations were calculated for each group. Four statistical predictions were generated for this hypothesis; each was substantiated by the data. Data were analyzed and findings are presented in the same manner as for Hypothesis 3.

First, we predicted that teacher attitudes toward their work environment in the SF-PS-CD schools would become significantly more favorable over the one-year research period. This prediction was tested by comparing the posttest and pretest mean scores for the seven schools in the full treatment group.

Prediction 4a: Work Attitudes

[SF-PS-CD (posttest $>$ pretest(]

The results of a series of t-tests (uncorrelated) are presented in Table 6.4. The overall scores indicate that the posttest teacher work attitudes are significantly more favorable ($p < .005$). The scores examined by categories indicate that significant increases in favorable response occur on all dimensions except those concerned with: (4) Materials and Equipment; (5) Buildings and Facilities; and (14) Financial Incentives. Most of the differences in the remaining twelve categories exceed the .005 level of confidence. The insignificant changes in attitudes in categories (4), (5), and (14) are in the predicted direction (posttest greater than pretest).

TABLE 6.4

TEACHER ATTITUDES TOWARD THEIR WORK ENVIRONMENT
[SF-PS-CD (posttest > pretest)]
(per cent Favorable Response)

Teacher Attitudes Toward:	SF-PS-CD (posttest) M	SD	SF-PS-CD (pretest) M	SD	t
1. Administrative Practices	66.36	12.74	45.76	10.96	3.244 ***
2. Professional Work Load	67.74	8.55	52.24	5.23	4.091 ***
3. Non-Professional Work Load	71.40	7.43	57.04	5.86	4.015 ***
4. Materials and Equipment	57.43	21.65	39.71	16.33	1.729
5. Buildings and Facilities	49.59	16.13	37.43	12.92	1.557
6. Educational Effectiveness	73.44	13.21	59.11	11.30	2.180 *
7. Evaluation of Students	60.93	13.09	46.49	13.10	2.062 *
8. Special Services	62.03	15.38	42.19	8.91	2.953 ***
9. School-Community Relations	72.19	8.14	51.16	7.63	4.988 ***
10. Principal Relations	79.57	5.87	56.83	11.10	4.793 ***
11. Colleague Relations	79.00	10.15	71.07	5.70	1.802 *
12. Voice in Educational Program	61.91	10.59	41.91	6.88	4.191 ***

TABLE 6.4 - Continued

Teacher Attitudes Toward:	SF-PS-CD (posttest) M	SD	SF-PS-CD (pretest) M	SD	t
13. Performance and Development	63.74	7.59	46.20	6.23	4.728 ***
14. Financial Incentives	69.09	19.17	56.71	11.07	1.479
15. Reactions to Survey	70.16	8.93	47.87	14.38	3.484 ***
16. Overall	66.93	8.19	50.20	3.96	4.868 ***

* $p < .05$
** $p < .01$
*** $p < .005$
df=12

The data indicate that Prediction 4a is, for the most part, sustained, i.e., significant improvements in work attitudes along twelve dimensions are observed when pretest and posttest scores are compared. These findings become even more acceptable, however, when attitude changes in the control schools are considered. Prediction 4 b states that work attitudes will become significantly more favorable in the full treatment schools then in the control schools.

Prediction 4b: Work Attitudes

[SF-PS-CD (posttest-pretest)] > [Controls (posttest-pretest)]

To test this prediction gain scores were calculated for each school. Means and standard deviations for the two groups are presented in Table 6.5. The overall scores indicate that differences in changes in teacher work attitudes were in the predicted direction; gain scores in the SF-PS-CD schools were significantly greater than those in the control schools ($p < .005$). The category scores reveal that these differences are beyond the .005 confidence level on ten of fifteen categories measured by the work attitudes instrument. Significant differences at the .05 or .01 level were obtained on the remaining categories. The most significant change differences occur in teacher attitudes toward: (1) Administrative Practices; (6) Educational Effectiveness; (9) School-Community Relations; (10) Principal Relations; (12) Voice in Educational Program; (13) Performance and Development; (14) Financial Incentives; and (15) Reactions to Survey.

TABLE 6.5

TEACHER ATTITUDES TOWARD THEIR WORK ENVIRONMENT
[SF-PS-CD (posttest-pretest)] > [Controls (posttest-pretest)]
(Favorable Response Gain Scores)

Teacher Attitudes Toward:	SF-PS-CD (change)		Controls (change)		
	M	SD	M	SD	t
1. Administrative Practices	20.60	9.36	5.99	13.49	4.285 ***
2. Professional Work Load	15.50	10.79	1.99	11.39	2.949 **
3. Non-Professional Work Load	14.36	10.27	4.43	13.20	2.971 **
4. Materials and Equipment	17.71	9.53	.39	13.42	2.786 **
5. Buildings and Facilities	12.16	4.79	3.91	12.26	3.230 ***
6. Educational Effectiveness	14.33	4.28	.23	7.95	4.134 ***
7. Evaluation of Students	14.44	12.89	.27	10.22	2.280 *
8. Special Services	19.84	13.11	2.94	11.89	3.406 ***
9. School-Community Relations	21.03	5.91	1.51	7.79	5.280 ***
10. Principal Relations	22.74	10.81	6.84	10.15	5.280 ***
11. Colleague Relations	7.93	8.35	5.60	8.72	2.966 **
12. Voice in Educational Program	20.00	5.35	6.66	8.03	7.309 ***

TABLE 6.5 - Continued

Teacher Attitudes Toward:	SF-PS-CD (change) M	SD	Controls (change) M	SD	t
13. Performance and Development	17.54	6.38	10.00	5.13	8.907 ***
14. Financial Incentives	16.29	8.16	7.87	6.87	5.992 ***
15. Reactions to Survey	22.29	13.17	14.89	10.55	5.828 ***
16. Overall	16.73	5.32	4.11	6.44	6.607 ***

* $p < .05$
** $p < .01$ df=12
*** $p < .005$

In a similar manner, Prediction 4c compares gain scores in the SF-PS-CD schools to those scores in the SF only schools.

Prediction 4c: Work Attitudes

[SF-PS-CD (posttest-pretest)] > [SF only (posttest-pretest)]

Means and standard deviations for these two groups of schools are presented in Table 6.6. The overall scores indicate that changes in teacher work attitudes are significantly greater in the SF-PS-CD schools than in the SF only schools. The scores examined by categories indicate that significant change differences in favorable responses (mostly beyond the .005 level of confidence) occur on all dimensions except those concerned with (2) Professional Workload; (3) Non-Professional Workload; (8) Special Services; and (11) Colleague Relations. The insignificant change differences in these four categories are in the predicted direction. Significantly different improvements are observed, however, along the other eleven dimensions of the scale.

TABLE 6.6

TEACHER ATTITUDES TOWARD THEIR WORK ENVIRONMENT
[SF-PS-CD (posttest-pretest)] > [SF only (posttest-pretest)]
(Favorable Response Gain Scores)

Teacher Attitudes Toward:	SF-PS-CD (change)		SF only (change)		
	M	SD	M	SD	t
1. Administrative Practices	20.60	9.36	2.67	6.96	3.823 ***
2. Professional Work Load	15.50	10.79	3.83	3.62	1.777
3. Non-Professional Work Load	14.36	10.27	4.07	14.11	1.313
4. Materials and Equipment	17.71	9.53	3.90	8.64	2.148 *
5. Buildings and Facilities	12.16	4.79	7.97	6.47	5.541 ***
6. Educational Effectiveness	14.33	4.28	1.90	6.05	4.917 ***
7. Evaluation of Students	14.44	12.89	7.47	13.63	2.428 *
8. Special Services	19.84	13.11	4.00	19.15	1.546
9. School-Community Relations	21.03	5.91	.33	6.33	5.142 ***
10. Principal Relations	22.74	10.81	4.87	2.54	4.236 ***
11. Colleague Relations	7.93	8.35	2.97	22.53	1.180
12. Voice in Educational Program	20.00	5.35	4.50	6.81	6.178 ***

TABLE 6.6 - Continued

Teacher Attitudes Toward:	SF-PS-CD (change) M	SD	SF only (change) M	SD	t
13. Performance and Development	17.54	6.38	9.83	5.85	6.352 ***
14. Financial Incentives	16.29	8.16	5.90	4.97	4.293 ***
15. Reactions to Survey	22.29	13.17	16.40	31.39	2.889 *
16. Overall	16.73	5.32	2.47	4.45	5.441 ***

* $p < .05$
** $p < .01$
*** $p < .005$

df=8

Prediction 4d compares SF-PS-CD posttest work attitude means with those for the posttest only control schools.

Prediction 4d: Work Attitudes

[SF-PS-CD (posttest)] > [posttest Controls (posttest)]

The overall scores shown on Table 6.7 indicate that work attitudes are significantly more favorable in the SF-PS-CD schools than in the posttest control schools ($p < .01$). Differences between posttest means exceeded the .005 confidence level along six dimensions: (1) Administrative Practices; (2) Professional Workload; (3) Non-Professional Workload; (9) School-Community Relations; (10) Principal Relations; and (15) Reactions to Survey. Significant differences also occur in the following categories: (6) Educational Effectiveness; (7) Evaluation of Students; (8) Special Services; (12) Voice in Educational Program; and (12) Performance and Development. The (4) Materials and Equipment and (11) Colleague Relations means differ insignificantly in the predicted direction. The only negative difference (not significant) is in the (5) Buildings and Facilities category. In general, the data support this final prediction.

TABLE 6.7

TEACHER ATTITUDES TOWARD THEIR WORK ENVIRONMENT
[SF-PS-CD (posttest)] 7 [Posttest Controls (posttest)]
(Per cent Favorable Response)

Teacher Attitudes Toward:	SF-PS-CD (posttest)		Posttest Controls (posttest)		
	M	SD	M	SD	t
1. Administrative Practices	66.36	12.74	41.22	14.03	3.387 ***
2. Professional Workload	67.74	8.55	46.17	15.77	3.136 ***
3. Non-Professional Work Load	71.40	7.43	56.42	9.93	3.113 ***
4. Materials and Equipment	57.43	21.65	53.17	8.73	.4496
5. Buildings and Facilities	49.59	16.13	51.27	16.66	- .185
6. Educational Effectiveness	73.44	13.21	54.67	14.92	2.409 *
7. Evaluation of Students	60.93	13.09	44.83	9.00	2.527 *
8. Special Services	62.03	15.38	45.07	11.07	2.242 *
9. School-Community Relations	72.19	8.14	50.38	12.96	3.696 ***
10. Principal Relations	79.57	5.87	54.31	17.83	3.551 ***
11. Colleague Relations	79.00	10.15	59.88	27.69	1.708
12. Voice in Educational Program	61.91	10.59	50.72	8.80	2.051 *

TABLE 6.7 - Continued

Teacher Attitudes Toward:	SF-PS-C (posttest) M	SD	Posttest Controls (posttest) M	SD	t
13. Performance and Development	63.74	7.59	46.27	14.05	2.855 **
14. Financial Incentives	69.09	19.17	56.28	14.27	1.345
15. Reactions to Survey	70.16	8.93	51.12	9.39	3.744 ***
16. Overall	66.93	8.19	50.48	11.01	3.087 **

* p .05
** p .01 df=11
*** p .005

Exploratory Research Questions

We generated six research questions to explore the consequences of survey feedback and survey administration in the control and SF only schools. The same statistical procedures used to investigate the predictions discussed earlier were used to study these exploratory questions. All questions were stated in the form of null hypotheses and, as such, two-tailed t-tests are applied to test the significance of differences between mean scores under examination.

None of the null hypotheses can be rejected on the basis of the data generated by the study. Our findings indicate that there are practically no significant positive or negative consequences of survey administration and feedback. The SF only program did not change teacher perceptions of school collective decision processes nor their attitudes toward their work environment. Further, survey administration did not seem to have any significant effects on teacher work attitudes. Survey administration, without subsequent feedback or problem solving, however, did produce less favorable attitudes toward the survey instrument itself. The survey administration and survey feedback data are discussed below.

The first two exploratory research questions focused on teacher perceptions of school collective decision making. Questions 3a and 3b compared SF only teacher perceptions with those of teachers in the control and posttest only control schools.

Exploratory Question 3a: Collective Decision Making

(SF only) = (Controls)

Exploratory Question 3b: Collective Decision Making

(SF only) = (Posttest Controls)

The empirical data do not disclose any significant differences between SF only versus control (see Table 6.8) and posttest only control school scores (see Table 6.9). The SF only intervention failed to reinforce perceived collective decision processes in the schools exposed to that treatment. Similarily, faculty members did not perceive any improvements in collective procedures. Teacher perceptions of collective decision making are less favorable, though not significantly, in the SF only than in the control schools.

The next three exploratory questions focus on teacher attitudes toward their work environment. Teacher attitude changes in the SF only schools were investigated by means of the comparison posed in Question 4a.

Exploratory Question 4a: Work Attitudes

[SF only (posttest = pretest)]

The data given in Table 6.10 indicate that the SF only intervention produced neither positive nor negative changes in teacher work attitudes. Percents of overall favorable response are nearly the same for the groups at the pretest and the posttest stages; likewise individual category means show little change.

Exploratory research Question 4b data reinforce these findings. Question 4b compares SF only gain scores with control school gain scores.

Exploratory Question 4b: Work Attitudes

[SF only (posttest-pretest)] = [Controls (posttest-pretest)]

The t-values given on Table 6.11 are consistently low for this set of comparisons; no category score differences approach the .05 level of significance.

TABLE 6.8

TEACHER PERCEPTIONS OF SCHOOL COLLECTIVE DECISION MAKING
(SF only) = (Controls)
(Per cent Favorable Response)

Teacher Perceptions Of:	SF Only Schools		Control Schools		
	M	SD	M	SD	t
1. Evaluation	48.63	6.30	61.03	17.78	- 1.132
2. Stimulation	52.57	7.39	51.38	15.61	.120
3. Internal Diffusion	39.53	3.82	49.96	17.21	- 1.006
4. Legitimation	36.07	6.90	47.20	17.79	- 1.009
5. Adoption	43.73	4.34	46.75	11.67	- 1.419
6. Implementation	38.37	2.80	40.65	13.21	- 1.288
7. Routinization	41.80	3.42	36.10	11.73	.799
8. Overall	43.47	2.19	49.30	13.86	- .705

* $p < .05$
** $p < .01$
*** $p < .005$

df=5

TABLE 6.9

TEACHER PERCEPTIONS OF SCHOOL COLLECTIVE DECISION MAKING
(SF only) = (Posttest Controls)
(Per cent Favorable Response)

Teacher Perceptions Of:	SF Only Schools		Control Schools		t
	M	SD	M	SD	
1. Evaluation	48.63	6.30	62.20	13.09	- 1.659
2. Stimulation	52.57	7.39	57.98	13.06	- .654
3. Internal Diffusion	39.53	3.82	54.68	15.22	- 1.645
4. Legitimation	36.07	6.90	56.85	19.16	- 1.767
5. Adoption	43.73	4.34	53.65	13.01	- 1.248
6. Implementation	38.37	2.80	48.62	15.65	- 1.089
7. Routinization	41.80	3.42	50.98	21.28	- 1.719
8. Overall	43.47	2.19	55.73	14.33	- 1.426

* $p < .05$
** $p < .01$
*** $p < .005$

df=7

TABLE 6.10

TEACHER ATTITUDES TOWARD THEIR WORK ENVIRONMENT
[SF Only (posttest = pretest)]
(Per cent Favorable Response)

Teacher Attitudes Toward:	SF Only (posttest) M	SF Only (posttest) SD	SF Only (pretest) M	SF Only (pretest) SD		t
1. Administrative Practices	36.60	11.27	39.27	18.20	-	.216
2. Professional Work Load	57.47	2.37	53.63	5.42		1.127
3. Non-Professional Work Load	58.07	16.13	54.33	4.93		.383
4. Materials and Equipment	42.50	5.38	38.60	13.31		.470
5. Buildings and Facilities	46.03	11.12	54.00	15.39	-	.727
6. Educational Effectiveness	57.90	12.78	57.20	14.67		.062
7. Evaluation of Students	39.40	3.13	44.53	18.58	-	.472
8. Special Services	36.93	14.80	32.93	5.91		.435
9. School-Community Relations	51.23	12.27	51.57	9.47	-	.037
10. Principal Relations	47.50	15.71	52.37	16.97	-	.364
11. Colleague Relations	65.30	13.27	68.27	16.35	-	.244
12. Voice in Educational Program	37.87	6.16	42.37	10.89	-	.623

TABLE 6.10 - Continued

Teacher Attitudes Toward:	SF Only (posttest) M	SD	SF Only (pretest) M	SD		t
13. Performance and Development	40.50	7.80	50.33	12.22	-	1.175
14. Financial Incentives	52.87	14.50	58.77	18.95	-	.428
15. Reactions to Survey	47.70	17.98	64.10	16.63	-	1.160
16. Overall	47.47	7.70	49.93	10.47	-	.327

* $p < .05$
** $p < .01$
*** $p < .005$

df=4

TABLE 6.11

TEACHER ATTITUDES TOWARD THEIR WORK ENVIRONMENT
[SF Only (posttest-pretest)] = [Controls (posttest-pretest)]
(Favorable Response Gain Scores)

Teacher Attitudes Toward:	SF Only (change)		Controls (change)		
	M	SD	M	SD	t
1. Administrative Practices	2.67	6.96	5.99	13.49	.395
2. Professional Work Load	3.83	3.62	1.99	11.39	.841
3. Non-Professional Work Load	4.07	14.11	4.43	13.20	.916
4. Materials and Equipment	3.90	8.64	.39	13.42	.411
5. Buildings and Facilities	7.97	6.47	3.91	12.26	- .529
6. Educational Effectiveness	1.90	6.05	.23	7.95	- .410
7. Evaluation of Students	7.47	13.63	.27	10.22	- 1.004
8. Special Services	4.00	19.15	2.94	11.89	.716
9. School-Community Relations	.33	6.33	1.51	7.79	- .359
10. Principal Relations	4.87	2.54	6.84	10.15	.323
11. Colleague Relations	2.97	22.53	5.60	8.72	.281
12. Voice in Educational Program	4.50	6.81	6.66	8.03	.404

TABLE 6.11 - Continued

Teacher Attitudes Toward	SF Only (change) M	SF Only (change) SD	Controls (change) M	Controls (change) SD	t
13. Performance and Development	9.83	5.84	10.00	5.13	.045
14. Financial Incentives	5.90	4.97	7.87	6.87	.443
15. Reactions to Survey	16.40	31.39	14.89	10.55	- .121
16. Overall	2.47	4.45	4.11	6.44	.398

* $p < .05$
** $p < .01$
*** $p < .005$

df=8

These findings are provided additional support by the data for Question 4c. Here we contrast teacher attitudes in SF only schools with those in the post-test only schools (see Table 6.12).

Exploratory Question 4c: Work Attitudes

[SF only (posttest)] = [Posttest Controls (posttest)]

The overall difference in means between these posttest attitudes is insignificant; category differences are also insignificant along fourteen of the fifteen dimensions. The only disparity is found in (12) Voice in Educational Program ($p < .05$). This may indicate that the survey feedback experience succeeded in raising the teachers' desired level of participation in certain organizational decisions, but this conclusion is only speculative. In general, the data are consistent with the above findings. The SF only intervention did not seem to produce any enduring changes in teacher work attitudes.

The final exploratory Question, 4d, investigates the effects of survey administration only on teacher work attitudes.

Exploratory Question 4d: Work Attitudes

[Controls (posttest)] = [Posttest Controls (posttest)]

The overall mean scores presented in Table 6.13 indicate that, at the time of the posttest, attitudes differed insignificantly between these two groups. Most category scores are higher for the control group than for the posttest only group. These differences are insignificant; we doubt that the survey administration accounts for these differences. However, there may be one important and statistically significant category mean difference. Teachers in the control schools had less favorable attitudes toward the attitude survey itself (15) Reactions to Survey. This suggests that survey administration probably does not influence teacher attitudes toward their work environment but may affect their attitudes toward being surveyed and then not having the results utilized in some way related to their work situation.

TABLE 6.12

TEACHER ATTITUDES TOWARD THEIR WORK ENVIRONMENT
[SF Only (posttest)] = [Posttest Controls (posttest)]
(Per cent Favorable Response)

Teacher Attitudes Toward:	SF Only (posttest)		Posttest Only (posttest)			
	M	SD	M	SD		t
1. Administrative Practices	36.60	11.27	41.22	14.03	-	.491
2. Professional Work Load	57.57	2.32	46.17	15.77		1.194
3. Non-Professional Work Load	58.07	16.13	56.42	9.93		.194
4. Materials and Equipment	42.50	5.38	53.17	8.73	-	1.905
5. Buildings and Facilities	46.03	11.12	51.27	16.66	-	.484
6. Educational Effectiveness	57.90	12.78	54.67	14.92		.319
7. Evaluation of Students	39.40	3.13	44.83	9.00	-	.996
8. Special Services	36.93	14.80	45.07	11.07	-	.939
9. School-Community Relations	51.23	12.27	50.38	12.96		.094
10. Principal Relations	47.50	15.71	54.31	17.83	-	.559
11. Colleague Relations	55.30	13.27	59.88	27.69		.313
12. Voice in Educational Program	37.87	6.16	50.72	8.80	-	2.235 *

TABLE 6.12 - Continued

Teacher Attitudes Toward:	SF Only (posttest) M	SF Only (posttest) SD	Posttest Only (posttest) M	Posttest Only (posttest) SD		t
13. Performance and Development	40.50	7.80	46.27	14.05	—	.648
14. Financial Incentives	52.87	14.50	56.28	14.27	—	.337
15. Reactions to Survey	47.70	17.98	51.12	9.39	—	.388
16. Overall	47.47	7.70	50.48	11.01	—	.419

* $p < .05$
** $p < .01$
*** $p < .005$

df=7

TABLE 6.13

TEACHER ATTITUDES TOWARD THEIR WORK ENVIRONMENT
[Controls (posttest)] = [Posttest Controls (posttest)]
(Per cent Favorable Response)

Teacher Attitudes Toward:	Controls (posttest)		Posttest Only (posttest)		t
	M	SD	M	SD	
1. Administrative Practices	44.44	18.60	41.22	14.03	.348
2. Professional Work Load	59.40	14.17	46.17	15.77	1.595
3. Non-Professional Work Load	57.19	13.33	56.42	9.93	.116
4. Materials and Equipment	54.09	16.56	53.17	8.73	.122
5. Buildings and Facilities	57.53	19.87	51.27	16.66	.609
6. Educational Effectiveness	68.81	18.09	54.67	14.92	1.521
7. Evaluation of Students	55.11	21.34	44.83	9.00	1.090
8. Special Services	52.91	15.54	45.07	11.07	1.030
9. School-Community Relations	58.49	9.46	50.38	12.96	1.302
10. Principal Relations	63.86	24.00	54.31	17.83	.800
11. Colleague Relations	73.80	10.45	59.88	27.69	1.238
12. Voice in Educational Program	46.09	12.27	50.72	8.80	.768

TABLE 6.13 - Continued

Teacher Attitudes Toward:	Controls (posttest)		Posttest Only (posttest)			t
	M	SD	M	SD		
13. Performance and Development	52.71	13.64	46.27	14.05		.838
14. Financial Incentives	52.34	14.78	56.28	14.27	-	.487
15. Reactions to Survey	37.79	9.95	51.12	9.39	-	2.471 *
16. Overall	56.51	12.61	50.48	11.01		.910

* $p < .05$
** $p < .01$
*** $p < .005$

df=11

CHAPTER VII

SUMMARY AND IMPLICATIONS FOR FUTURE RESEARCH

The primary purpose of this study was to assess the effects of the SF-PS-CD intervention of teacher work attitudes. Secondarily, we were concerned with the program's effects on school organizational health, effectiveness, and innovativeness. We hypothesized that the intervention would establish teacher collective decision making and change supporting structures within the school which would complement the organization's existing authority structure. The new decision mechanisms were designed to provide specific teacher inputs into the identification and solution of school problems and foster the institutionalization of change. We hypothesized that the extent to which these new structures were perceived as fully functioning and productive of increased organizational effectiveness and innovativeness would be reflected in improved teacher attitudes toward key aspects of their work environment.

In general, the major hypothesis of the research was confirmed. This chapter will conclude our report by reviewing and elaborating on the study's findings, particularly those that deal with administrative and faculty perceptions of collective decision making and teacher work attitudes in the experimental schools. We will relate these findings to the study's theoretical model and will recommend specific changes in our OD intervention, improvements to be tested in future research and experimentation in schools and other types of organizations.

Perceptions of Collective Decision Making

Overall teacher perceptions of collective decision processes were significantly more favorable in the SF-PS-CD schools than in the pretest-posttest control schools and SF only schools. Teacher perceptions of collectivity in the full treatment schools were also more favorable, though insignificantly so, than those in the post-test only control schools. Further, the t-tests compared the mean scores for the combined experimental schools with the mean scores for the various control groups. Had the statistical analysis differentiated between those full treatment schools which fully implemented program procedures and those that did not--i.e., if our statistics had tested the effects of successfully routinized collective decision structures rather than the effects of the intervention--between-group mean differences possibly would have been more highly significant.

The SF-PS-CD intervention is a highly divisible structural innovation in that the three OD components can be implemented separately. In defining the extent to which the seven experimental schools routinized "complete" collective decision structures, we focused on whether or not the organizations adopted all three of the intervention's components. For the purposes of this analysis, schools with complete collective structures are those which (1) utilized the survey feedback data, (2) conducted faculty problem solving meetings throughout the one-year research period, and (3) institutionalized the collective decision overlapping group structural configuration. In our discussion of Hypothesis I, we noted that collective decision processes were routinized successfully in four schools. Complete collective structures were also found in another school, but were perceived as somewhat competitive with the authority structure by the in-coming principal. One school partially implemented the procedures--survey feedback and problem solving procedures were undertaken without the formal overlapping group structural configuration. In another school, neither the problem solving meetings or the overlapping group structure were implemented.

These findings were based largely on interview data obtained from school principals and program leaders. At the time of the interviews, neither the interviewers not the interviewees knew how favorably (or unfavorably) teachers in each particular school responded to the posttest School Survey or Group Problem Solving questionnaires. Thus, neither the external changes agents nor the concerned school personnel had access to more objective data on teacher work attitudes or perceptions of collective decision making. The interviews and classification of schools on the basis of "completeness of collective decision structures" therefore was not contaminated by prior knowledge of the post-experimental questionnaire data.

Within the experimental group, overall teacher perceptions of collective decision processes (as measured by the Group Problem Solving questionnaire) were positively related to the extent to which program activities were implemented successfully in the individual schools (see Table 7.1). The most favorable perceptions of collective processes were reported in two "complete" collective decision schools which had particularly active Review Committees. In experimental school 4, the Review Committee included a building representative and building coordinator in addition to the principal and program leader. In school 3, the assistant superintendent participated in Review Committee activities and facilitated district level cooperation. The teachers is school 7 formed one of the most enthusiastic and successful Program Groups. They reported favorable perceptions of collective processes, though the new principal felt that some of their activities conflicted with the authority decision structure. Teachers in the school with partial collective decision structures (6) had the next highest favorable overall mean score.

TABLE 7.1

FAVORABLE PERCEPTIONS OF COLLECTIVE DECISION MAKING:
SF-PS-CD EXPERIMENTAL SCHOOLS

School Code Number	Collective Decision Structures	Per Cent Favorable Overall Response (Posttest)	S.D.
4	Complete	74.2	12.5
3	Complete	72.4	22.0
7	Complete	68.1	17.0
6	Partial	61.1	22.3
2	Complete	56.4	22.1
1	Complete	54.0	19.3
5	Not Implemented	51.1	27.4

Faculty members in schools 2 and 1 had slightly less favorable perceptions of collectivity and participation. Though complete collective structures were implemented in these organizations, the schools experienced turnover at the principal (school 1) and program leader (school 1) levels. The lowest overall mean score was obtained from the school which discontinued program activities (school 5).

Teacher perceptions of collective decision sub-processes will be discussed from two points of view. First, favorable mean scores for the entire SF-PS-CD group will be compared to mean scores for the control groups. Second, mean dimension or sub-process scores within the SF-PS-CD group will be contrasted. The intervention seemed to have a more powerful impact on certain collective decision sub-processes than others. To summarize, the program as perceived by the teachers more strongly affected stimulation, adoption, implementation, and routinization than it did evaluation, internal diffusion, and legitimation.

Favorable teacher perceptions of evaluation activities were approximately equal in the SF-PS-CD and control schools. Teachers in both the experimental and control schools felt they had a part to play in identifying and specifying school problems. Perceptions of faculty

evaluation in the control schools possibly could reflect participation in the authority decision structure rather than involvement in collective decision making. In any case, significantly favorable differences in faculty perceptions occurred only between the experimental schools and SF only schools ($p < .005$). Within the SF-PS-CD group, teachers reported the most favorable perceptions of faculty evaluation in three schools which fully implemented collective decision procedures (schools 4, 3 and 7). The least favorable perceptions of evaluation activities were found in the school which discontinued program activities (5) and the school with partial collective structures (6).

The intervention had a relatively greater impact on teacher perceptions of the stimulation sub-process. In contrast to the SF only and control groups, teachers in the SF-PS-CD schools perceived significantly greater opportunities for faculty problem solving, effectiveness of team problem solving efforts, and commitment to faculty group activities. Teachers in complete collective decision schools 4 and 3 posted highly favorable scores along this dimension. The lowest stimulation means were observed in the collective decision school with leader turnover (2) and the school which discontinued program activities (5).

The intervention did not produce significantly greater perceptions of internal diffusion. Though between-group differences are in the predicted direction, the SF-PS-CD group mean is significantly greater only when compared to the SF only group mean ($p < .01$). Because the elementary level sample schools possibly were small enough ecologically and in numbers of personnel, the need for institutionalized lateral interaction for internal diffusion purposes may have been minimal. The within-group data suggest that faculty team problem solving facilitates internal diffusion. A case in point is the experimental school which utilized problem solving procedures but only partially established the collective structural configuration (school 6). Faculty perceptions of internal diffusion in this school were about equal to the average for all SF-PS-CD schools.

Somewhat to our surprise, faculty perceptions of legitimation did not differ significantly between the experimental and control schools. One explanation for this finding is that greater and more explicit demands were placed on legitimation mechanisms in the SF-PS-CD schools as faculty stimulation activities increased. The overlapping program committee structural configuration was able to accommodate this increased activity, but not without some strain. In retrospect, we saw that program leaders' training tended to place greater emphasis on faculty evaluation and problem solving activities than on the legitimation sub-process. It now seems to us that the leader training program should have dealt with legitimation considerations more thoroughly.

Within the SF-PS-CD group, the most favorable perceptions of legitimation were reported in school 3, which benefitted from direct district level participation in the program. The involvement of top administrators in collective decision activities possibly facilitated or lent additional weight to sanctioning of faculty recommendations. Teacher perceptions of legitimation were least favorable in the experimental school which discontinued program activities (school 5). However, perceptions of legitimation were about equally as unfavorable in one of the complete collective decision schools. The legitimation mean score for school 1 suggests that collective decision activities broke down at the legitimation stage and interfered with the implementation of faculty suggestions. In school 7, faculty perceptions of legitimation were not appreciably greater than the average for the entire experimental group. This finding is exceptional because teachers in this school generated higher than average mean scores along every other dimension. We hypothesized that legitimation mechanisms are necessary for the effective coordination of the two decision structures. Perceptions of the legitimation sub-process should reflect theoretically the extent to which dual decision structures are complementary rather than competitive. As such, the coordination problems between structures noted by the new principal during the evaluative interview were reaffirmed by his faculty's perceptions.

The intervention seemed to have a greater effect on teacher perceptions of the final rather than earlier stages of the collective decision process. Though this finding was not formally hypothesized, we anticipated that the phenomenon would occur for three reasons. First, we expected that improvements gained along various stages of the collective decision process would be cumulative. To the extent that these incremental changes are cumulative, the intervention should have its greatest impact at the final stages. Second, the final stages of the collective decision process are also the final stages of the authority decision process, i.e., the point at which both structures converge. As collective decision structures are implemented in the school, teacher attitudes toward authority, as well as collective, decisions should improve. Finally, the collective structure provides a mechanism for increasing faculty participation in authority decisions. This heightened involvement should further increase favorable teacher perceptions of adoption, implementation, and routinization.

The differences in teacher perceptions between SF-PS-CD and pretest-posttest control schools become increasingly significant at the three final stages: adoption ($p < .05$; implementation ($p < .01$); and routinization ($p < .005$). The same trend is evidenced when the SF-PS-CD schools are compared to the posttest control schools, though the differences are insignificant. Relatively speaking, four of the complete collective decision schools had very favorable teacher perceptions of adoption, implementation, and routinization. Routinization scores for these schools were higher than the mean scores for any other experimental or control school in the sample. The lowest scores within the SF-PS-CD group were generated by teachers in school 1, a "complete"

collective decision school. The cumulative effects of the intervention at earlier stages may have been cancelled out by the apparent problems within the school at the legitimation stage. The second lowest mean scores for adoption, implementation, and routinization were observed in the school which had discontinued program activities.

Quality of School Faculty Meetings

We anticipated that many teachers in the sample schools, both experimental and control, would report that their schools provided the faculty with mechanisms for collective evaluation and problem solving. Faculty members who perceived the opportunity for group problem solving in their schools were asked three questions concerning the quality of those activities. Responses to these post-test questions were not included in the School Survey nor Group Problem Solving mean scores reported earlier.

The first question focused on whether faculty problem solving mechanisms were being used effectively. The second concerned the extent to which faculty problem solving efforts contributed to the identification of school needs. The third item focused on whether faculty meetings increased teacher awareness of school problems.

Faculty members from all schools were asked to respond to these items only if they felt that the teachers in their school participated in formal group problem solving activities. Faculty members in the SF-PS-CD group reported the most favorable perceptions of faculty meetings (38.4 per cent favorable response). Teachers in the pretest-posttest and posttest only control schools responded less favorable (28.7 percent favorable response). Teachers in the SF only schools had the least favorable perceptions of faculty problem solving meetings (20.1 percent favorable response). The average favorable response for all schools was 30.5 percent.

Within the experimental group, perceptions of faculty meetings were more favorable in the schools with complete collective structures than in those with incomplete structures. However, favorable perceptions of faculty meetings were negatively related to favorable perceptions of overall collective decision activities in those schools which fully implemented the program procedures. Teachers in schools 2 and 1 reported high quality faculty meetings: 54.8 percent and 50.9 percent favorable response, respectively. Teachers in schools 4, 3 and 7 had more favorable overall perceptions of collective decision activities but reported lower quality faculty meetings. Their favorable response rates were: 33.3 percent in school 4; 41.2 percent in school 3; and 43.3 percent in school 7. It is possible that the teachers in these three schools had greater expectations concerning their meetings and were more critical of their group activities. In any case, perceptions

of faculty meetings were decidely less favorable in the other two experimental schools. The response score was 17.8 percent favorable in the school with partial collective decision structure (school 6) and 27.3 percent favorable in school 5 which discontinued program activities.

These three questionnaire items certainly do not cover adequately all aspects of faculty meeting quality or productivity in the target population of schools. However, the responses to these sample questions, in conjunction with the other Group Problem Solving findings, indicate that the program activities succeeded in bringing about somewhat more favorable teacher perceptions of school problem solving at the technical core level of the schools.

Teacher Work Attitudes

The SF-PS-CD intervention had highly significant favorable consequences for teacher work attitudes. Overall favorable response scores on the School Survey increased significantly over the one period within the experimental group ($p < .005$). Attitude changes were significantly greater in the SF-PS-CD schools than in the pretest-posttest control schools ($p < .005$) and in the SF only schools ($p < .005$). Overall teacher responses were significantly more favorable in the experimental group than in the posttest only control group ($p < .01$).

Within the experimental group, the magnitude of favorable teacher attitude changes generally corresponded to the extent to which collective decision structures were effectively implemented. Interview and questionnaire data indicated that the most successful complementary collective structures were implemented in schools 3 and 4. Based on our analysis of pretest-posttest raw gain scores (see Figure 7.2), teachers in both of these schools experienced significant improvements in work attitudes. The greatest improvement was reported by the teachers in school 7. This school had a very active Program Group; however, the new principal felt that some of their activities were not consistent with authority decision procedures. Favorable attitude changes also occurred in school 6, where survey feedback and problem solving procedures were used with informal vertical communication channels. Gain scores for the other three schools were positive, but fell below the experimental group average. Favorable attitude changes were evidenced in school 5 but cannot be related to the OD intervention. Relatively modest gain scores were recorded in collective decision schools 1 and 2. Legitimation problems in school 1 possibly restricted teacher-initiated changes and minimized favorable gains in attitudes.

The absence of a fully-trained program leader in school 2 (due to a turnover) might account for the small gain score found there. Nevertheless, collective procedures were used by teachers in both schools to solve some important problems and, notwithstanding modest overall gains, changes did occur along certain attitudinal dimensions.

FIGURE 7.2

SCHOOL SURVEY GAIN SCORES:SF-PS-CD
EXPERIMENTAL GROUP

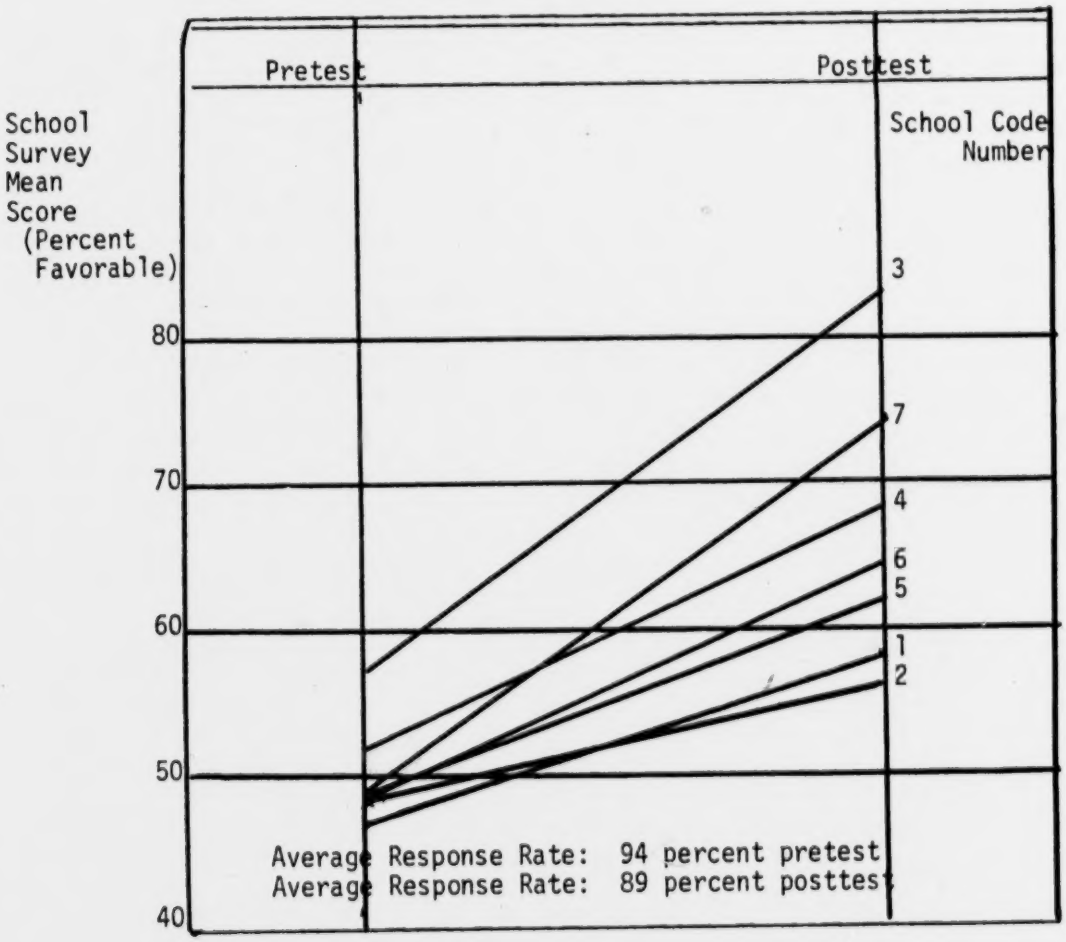

FIGURE 7.2 - Continued

School Code Number	Collective Decision Structures	Raw Gain Score
7	Complete	+24.4
3	Complete	+22.4
4	Complete	+16.9
6	Partial	+16.6
5	Not Implemented	+15.2
1	Complete	+12.5
2	Complete	+ 9.1

The intervention had highly favorable effects on teacher attitudes toward administrative practices. Gain scores for the SF-PS-CD group were significantly greater than those for the pretest-posttest control and SF only groups ($p < .005$). Experimental school faculties perceived their top administrators to be significantly more concerned with educational matters, to pay more attention to faculty suggestions, and to be better decision makers. This change may have resulted from the overlapping program committee structural configuration which was designed to facilitate vertical communication. Experimental school faculty attitudes were significantly more favorable than those in the posttest only schools at the end of the one year research period.

Teacher attitudes toward their professional work load in the SF-PS-CD schools became more positive. At the time of the posttest, SF-PS-CD faculties reported significantly more favorable attitudes on this factor than posttest control faculties ($p < .005$). Experimental group gain scores were greater than control group gain scores ($p < .01$), but not significantly greater than SF only group gains. Professional work load items focus on class size, fairness of work loads, opportunity to deal with individual student differences, and type of work assignments. We expected that improved understanding of work load constraints and increased control over job assignments would elicit more favorable responses on these items. This dimension also included questions pertaining to the frequency of faculty meetings (too many?), their quality (worthwhile?), and the results of faculty committee recommendations (ignored?). The most favorable changes in these items were registered in two of the complete collective decision schools.

The non-professional work load category focused on such matters as the administrative paper work required of the teachers, number of non-professional duties, and fairness in allocating extra-curricular assignments. Again, favorable gain means for the SF-PS-CD group were greater than those for the control group ($p < .01$) but not greater than the SF only group gains. Experimental group attitudes were significantly more favorable than the posttest only control group means at the time of the posttest ($p < .005$). It is interesting to note that the teachers in one experimental school reported relatively high favorable gains along the professional work load dimension, but showed no change in attitudes toward their non-professional work load. In another collective decision school, the opposite situation occurred. This indicates that various faculty groups focused their efforts on different types of problems from school to school.

The materials and equipment dimension covers such factors as the quality of instructional materials, their availability, and adequacy of supplies. We expected that the problem solving groups would deal with school-wide material and equipment problems by attempting to improve the usefulness of existing resources. It is somewhat questionable whether this occurred to the extent we anticipated. Experimental group teachers recorded positive, but insignificant, attitude changes along this dimension; their percent favorable response posttest mean on this factor approximated the posttest control group mean. However, SF-PS-CD gain scores were somewhat greater than control gains ($p < .01$) and SF only gains ($p < .01$).

The buildings and facilities category focuses on adequacy of classrooms and offices, condition of work place, availability of free-time facilities, and the condition of the building and grounds. We did not expect the intervention to have a significant effect on many dimensions of this category in view of the "fixed" nature of the resources. SF-PS-CD group means were insignificantly more favorable at the posttest than at the pretest. The posttest only control group mean and the SF-PS-CD mean approximated each other at the time of the posttest. However, SF-PS-CD change scores were significantly greater than control and SF only school gain scores (each $p < .01$). These differences could possible be the result of "halo" effects. Faculty pretest and posttest responses on this factor could have been influenced by their attitudes toward other aspects of their work environment. Within the experimental group, gain scores along this dimension were lower than those along most other work attitude categories.

Educational effectiveness items deal with the effectiveness of the school program in meeting appropriate educational needs and the financial and other support given the school by the community. Individual items focus on students' preparation for advancement to higher grade levels, parental interest in education, learning climate of the school, and the "comprehensiveness" of the school's curriculum. Attitude changes along this dimension were significantly more favorable in

the experimental schools than in the SF only and pretest-posttest control schools ($p < .05$). We view these findings as extremely important. Educational effectiveness items on the scale we employed come closest to focusing on a chief goal of any educational organization development strategy--improving the school's ability to educate its students. It is possible that teachers' feelings of "doing better" may lay the groundwork for a self-fulfilling prophecy in which work performance actually does improve. The average gain score for the experimental group of schools was +14.3 percentage points. The only exceptionally high change score we obtained was recorded by teachers in one of the two schools with highly successful collective decision structures.

The evaluation of students category attempts to measure teacher attitudes toward the school's methods of assessing and reporting student progress. It also focuses on school policies regarding promotion and retention and the provisions made for teacher-student consultation following the progress report. Changes in SF-PS-CD teacher attitudes on this factor were significantly more favorable than changes in SF only and control school teacher attitudes ($p < .05$). There was considerable variation in scores within the experimental group. The highest gain score along all categories for all schools tested was achieved on this category by a collective decision school (+42.5 percent). Simultaneously, teachers in one of the schools with the most effective collective decision structures reported virtually no improvements along this dimension. Pretest teacher attitudes toward student evaluation were favorable in this school whose faculty did not deal with this issue. This finding provides some indication that improved work attitudes were related to carefully identified problems and concentrated efforts on improvement in these areas. (This type of observation, however, is based only on the raw gain scores and consequently may be subject to regression artifacts.)

The purpose of the next category is to determine whether the special services provided by the school are adequate to meet the needs of its students. It deals both with the availability of various programs and the character of work relations between teachers and special service personnel. Attitude changes within the SF-PS-CD group were significantly greater than those within the pretest-posttest controls ($p < .005$) but insignificantly greater than those within the SF only group. On a posttest basis, experimental group means were higher than posttest control group means ($p < .01$). Although it is difficult for faculty groups to increase their schools' capabilities for providing special services, we anticipated that Program Groups could generate methods for using existing resources more efficiently and for improving specialist-teacher coordination. These results probably obtained in two collective decision schools whose faculties exhibited extremely high gain scores along this dimension.

School-community relations items concern parental influence in education, community influence, appropriateness of board policies, and superintendent-school board relations. Experimental school gain scores and posttest means were significantly greater than those in any other comparison group (all differences $p < .005$). Every school subjected to the SF-PS-CD intervention reported substantial favorable changes along this dimension. In the absense of more objective information, we again raise the possibility of a halo effect to account for these improvements.

The intervention seemed to have highly positive effects on teacher attitudes toward their principal. Principal relations items focus on the principal's downward communication adequacy, fairness of supervision, initiative in giving help and in soliciting ideas, influence with his superiors, and knowledge of the teachers' work situation. Faculty attitude changes toward their principal were significantly greater in the full treatment schools than in the control schools and SF only schools ($p < .005$). SF-PS-CD teacher posttest attitudes were also more favorable than the posttest control teacher attitudes ($p < .005$). SF-PS-CD teacher posttest attitudes were also more favorable than the posttest control teacher attitudes ($p < .005$). Attitudes along this dimension improved substantially in three collective decision schools; improvements also were obtained in the partial collective decision school. Moderate gains in faculty-principal relations were reported in a fourth collective decision school and in the school which discontinued program activities. Principal relations were, however, highly favorable in both of these schools at the time of the pretest.

The colleague relations category deals with the friendliness of of people and with relations between subgroups within the school. It is concerned primarily with social relations. As such, the SF-PS-CD strategy is not aimed specifically at improving interpersonal relations at the social-emotional level of group functioning. Rather the approach is basically structural and takes its point of departure on tasks and organizational role relations. As a consequence, any favorable effects of the program on social development in the school would be somewhat secondary and indirect. Colleague relations were significantly more favorable at the end of the one year period with the SF-PS-CD group ($p < .01$). Experimental group gains were significantly more positive than control school gains ($p < .05$) but only slightly more favorable than SF only school changes. On a posttest basis, teacher attitudes toward their peers were about the same in the experimental and posttest only control schools.

The aim of the voice in educational program category is to measure teacher satisfaction with planning the school's educational program. It deals primarily with curriculum development and choice of materials. The findings along this dimension are particularly relevant to the evaluation of the SF-PS-CD intervention. Teachers commonly express interest in participating in curriculum construction. Curriculum decisions are central to the teachers' role since the faculty is especially competent

by training to participate in these decisions. In this sense, the voice in educational program factor tests the effectiveness of the intervention's built-in decision sorting mechanism. The change strategy should provide for greater faculty influence on curriculum matters and bring about favorable attitude changes regarding the role they plan in program development.

SF-PS-CD faculty attitudes along this dimension were significantly more favorable at the posttest than at the pretest ($p < .005$). Experimental school gain scores were significantly greater than either control or SF only school gain scores ($p < .005$). Similarly, SF-PS-CD faculty attitudes toward voice in educational program were more favorable than posttest control faculty attitudes ($p < .005$).

The theoretical framework of our change model also suggests that the program should strongly affect teacher attitudes toward performance and development. This category assesses the effectiveness of procedures used to evaluate work performance and stimulate the professional growth of individuals in the system. Our model provides teachers with increased influence and control over evaluation procedures; in effect the collective decision making structures established a mechanism for gaining this control. As vertical communication is improved, equitable evaluation of performance should become more feasible, faculty understanding of evaluation procedures should improve, and the usefulness of evaluation data should increase. As such, the entire intervention is designed to increase human resource utilization and provide for faculty professional growth.

Our data indicate that the change strategy had its greatest impact on teacher attitudes toward performance and development. Gain score *t*-values in this category were higher than those for any other School Survey dimension. In the experimental schools, posttest attitudes were significantly more favorable than pretest attitudes ($p < .005$). SF-PS-CD gain scores were significantly more favorable than control school and SF only school gain scores ($p < .005$). Posttest SF-PS-CD faculty attitudes were also more favorable than posttest only control faculty attitudes ($p < .005$).

The financial incentives category assesses teacher attitudes toward the school district's salary and benefits program and its administration. Questionnaire items focus on adequacy of pay, security through pay, incentives for advanced training, reward for outstanding work, voice in salary matters, and internal and external salary comparisons. There was a small but insignificant increase in favorable teacher attitudes along this dimension within the experimental group. Similarly, SF-PS-CD teacher attitudes were only somewhat more favorable than posttest control teacher attitudes. However, favorable changes in SF-PS-CD teacher attitudes toward financial incentives were significantly greater than changes in the pretest-posttest control and SF only schools' teachers attitudes ($p < .005$).

Within the experimental group, the greatest raw (uncorrelated) gain scores on the financial incentives category were observed in the three schools which exhibited the most complete collective structures. We have little evidence that these relatively high gains reflect actual improvements in their respective districts' financial program. The positive attitude changes probably were more indirect results of the intervention's effect on other relevant organization variables. An organizational member's decision to participate in, rather than leave, the organization is based on a number of variables in addition to financial incentives. Among other causal factors related to the stay-or-leave decision are: "satisfaction with job," "the uniformity of job characteristics to the self-characterization held by the individual," and "the consistency of supervisory practices with employee independence" (March and Simon, pp. 94-95). To the extent that the SF-PS-CD strategy had positive effects on these factors, financial incentives should become less critical to the teachers' participation decisions. The tangible rewards available to the faculty may possibly become more acceptable in view of improvements in these non-financial factors as perceived inducements.

The final category, reactions to survey, measures the faculty's evaluation of the survey procedure as a means of communicating with the administration and getting action on identified problems and needs. Teachers in the SF-PS-CD schools had significantly higher gain scores along this dimension than teachers in the control and SF only schools ($p < .005$). At the time of the posttest, experimental school faculties reacted more favorably to the survey than posttest control school faculties ($0 < .005$). Favorable reactions to attitude surveys seem to depend on the extent to which the results are used to effect constructive change within the school.

Suggestions for Program Improvement

The SF-PS-CD program was not without its problems, some of which have already been noted. This section focuses on some additional program weaknesses and possible means for alleviating these deficiencies in future interventions. Principals and program leaders specified problems in the areas of program initiation, administrative involvement, succession of program leadership, and faculty interpersonal relations. Another weakness, not identified by the interviewees, was the program's failure to stimulate the adoption of externally-generated technological innovations.

Program evaluation strongly suggested that the involvement and support of the school administration is a necessary pre-condition for the success of the intervention. Within the experimental school group, there seemed to be a high positive relationship between administrative involvement and program effectiveness. Though top-echelon administrators formally sanctioned the program in all of the cooperating districts, faculty

members were not always fully aware of this legitimation. This had the effect of retarding certain program activities, at least initially, in a number of schools. Additionally, the absence of ongoing support and participation on the part of superintendents and other key central office personnel seemed to minimize program effectiveness--even after these administrators had formally approved the program at the time of initiation. The lack of direct top administrative involvement may in fact prevail against the continued operation of the collective decision structure and restrict the effectiveness of upward communication.

While the intervention generally succeeded in gaining the involvement of faculty members, it was unsuccessful in evoking participation at top administrative levels in certain districts. This was clearly the result of weaknesses in the program initiation procedures. Our training efforts in SF-PS-CD methodology were directed primarily at the elected faculty program leaders in the experimental schools. The intervention failed to provide school administrators with an adequate understanding of collective decision theory and problem solving methods. At the time of entry, school administrators in all districts were extremely cooperative; central office personnel "opened their schools" and placed few restrictions on program activities. Since we were not burdened with having to "hard sell" the administrators, they received relatively little information (mostly in written form) concerning the program's philosophy, methods, and potential functional consequences.

Future SF-PS-CD strategies should emphasize more frequent and intensive interaction between the external agents and school administrators at all levels. The intervention should include special meetings at top administrative levels to gain program support; faculty members explicitly should be made aware of this support when deciding whether to initiate and continue problem solving activities. Transformation system concepts might be used at the time of entry to provide administrators with a clear understanding of the intervention's purposes and targets for change (see Lake and Callahan, 1971).

The program generally was successful in gaining the involvement of building principals. It had their active support and participation in at least five of the seven experimental schools. There is little doubt that principal interest would have been higher if greater efforts had been made to familiarize them with the program's procedures. Two specific problems possibly could have been avoided by formally instituting principal training programs.

First, certain principals tended initially to view the program as grievance oriented. These negative perceptions resulted in part from the Program Group's early focus on unfavorable survey findings. Such perceptions would be reinforced if faculty members concentrated on problem identification without moving on to solution generation. Principal training programs would not only be useful in establishing favorable expectations of program activities and minimizing perceived

threat but also in increasing the principal's ability to utilize the Program Group's output. For example, problems identified at the Program Group level could provide a mechanism for increasing faculty participation in authority decision processes. An increased understanding of the program's methods would also provide the principal with greater control over program activities. If the Program Group continues to specify problems and fails to offer any constructive solutions, the program can indeed become grievance oriented. A principal could reverse this trend by consulting with the program leader on what types of problems faculty members are most competent to solve. Negotiations with the program leader could focus on increasing the group's solution output for appropriate types of problems.

A second weakness was that principals were not in some cases well informed of the details of the feedback and problem solving meetings. This often was the consequence of a failure to use the formalized program reporting procedures on a regularized basis. This situation could have been avoided if the principals knew what types of information he was programmed to receive. The upward flow of information would be increased by strengthening inter-level role expectations and reducing ambiguity. Future interventions, however, should probably also provide additional mechanisms for vertical communication. In developing supplementary means for information transmission, the informal structure of the organization should be given greater consideration. The principal in the school which succeeded in implementing only partial collective decision structures apparently achieved satisfactory communication through relatively informal methods.

Communication between the principal and the Program Group could also be increased by having the principal occasionally attend group meetings. Some principals suggested that the Review Committee mechanism could be supplemented through their direct interaction with the faculty; one principal arranged for the faculty to set aside a few minutes for his comments related to the program at the beginning of each meeting. Although we recommend that the hierarchically-undifferentiated group concept be retained, limited principal participation in group sessions would seem to be functional. In many cases, the principal may be best able to provide the faculty with administrative perspectives by working with the SF-PS group directly. This also would offer the principal the opportunity to increase the teachers' awareness of authority decisions and further faculty participation in early authority subprocesses.

A serious threat to SF-PS-CD routinization was our failure to provide for program leader succession. Collective decision activities placed heavy demands, in both time and energy, on the program leaders. At the time of program evaluation, program leaders suggested that their replacements be elected and trained each year. Besides achieving a more equitable distribution of responsibilities, planned leader turnover would have additional functional consequences. Program leaders reported that both their training and program activities were highly valuable in their own personal development; they felt that other faculty members also could profit greatly from the experience.

Program activities should be enhanced by turnover as more faculty members are trained in problem solving procedures. Annual training of new leaders could serve to revitalize the program. Incoming leaders could be provided with new survey and supplementary data as well as training in more advanced problem solving techniques. As program activities are evaluated and the theoretical base for dual decision structures expands, yearly training could provide for continued program modification and flexibility. Finally, turnover in leadership is often necessitated due to promotions, transfers, and withdrawals from the system. In one experimental school, the program leader assumed the position of assistant principal halfway through the program and a new leader was elected. Events such as this underscore the need for planned program leader succession mechanisms.

The original program design also failed to account for turnover at the principal level. It is difficult for a new principal moving into any ongoing program to understand its goals and methods. Initial participation in program planning seems to be highly related to involvement and acceptance. As noted above, a new principal was named in one experimental school in which collective decision processes had been firmly established. The new principal reported that his Program Group was"difficult to deal with" because it had assumed authority over certain decisions which he perceived to be within his administrative domain. On the basis of his comments and his faculty's perceptions of weaknesses at the legitimation stage, one might conclude that the school exhibited some competition between the authority and collective decision structures.

However, we have little indication that the dual decision structure in this school were actually operating in a competitive manner. First, though the new principal expressed some discomfort regarding the program group's activities, he did not suggest that he was currently attempting to limit or restrict collective decision processes. In general, it seems that the principal was making a great effort to adjust to this unusual organizational structure in spite of the fact that we did not prepare him to do so. Second, the program leader was not aware of the principal's attitudes toward the program. She neither suggested that the new principal interfered with group activities nor attempted to modify the group's authority as established by the previous principal. Third, teacher responses to School Survey and Group Problem Solving items were highly favorable in this school. Teachers in this school generated the greatest attitude gain scores within the experimental group; they also reported generally favorable perceptions of collective decision activities.

Nevertheless, it is now evident to us that new principals must be prepared for working within the framework of complementary dual decision structures. Other experimental school principals reported that the intervention had strongly changed the character of their organization and mode of operations. One administrator suggested that his school now was different than most others and, as such, his job was also unique. Future interventions should include a fully-developed program for preparing

incoming principals for SF-PS-CD processes. As in the case of program leader turnover, principal turnover, properly anticipated, may provide an opportunity for revitalizing program activities. New administrators should participate in and influence the structuring of school collective decision processes. At the same time, ongoing program activities could help the novice administrator become acquainted with his faculty.

There also were some apparent weaknesses in the program's design at the faculty or natural work group level. First, the meetings and subgroup assignments placed additional time and responsibility burdens on the teachers. Program leaders suggested that provisions might be made for meeting on school time and freeing teachers from some teaching or extra-curricular assignments. The first (data evaluation) and second (solution generation) group meetings were, in most instances, held on teacher in-service days. Subsequent meetings usually were scheduled at less convenient hours (e.g., mornings one hour before classes) and on the faculty's own time. Meetings between the external agents and school representatives were scheduled on Saturdays at a centrally located (but nevertheless distant) motel.

In most other types of organizations, members are compensated for their participation in organizational improvement programs. It seems reasonable to suggest that school districts could set aside periodically one hour of school time for program activities and relieve program leaders from certain other duties. This recommendation is based on the assumption that the SF-PS-CD program is more productive of improvements than some of the other inputs in which schools presently invest their time and money. However, we believe that the allocation of scarce organizational resources to OD programs of this type should be based primarily on their effects on instruction and student learning. Future research should focus on the costs of the intervention in relation to its output in terms of overall school effectiveness.

A second weakness at the faculty level was that the program deliberately avoided identifying or dealing directly with staff problems in the affective domain. Additional training seems to be necessary for faculties in which poor interpersonal relations obtain and persist. The program was designed to focus primarily on structural and task considerations; we neither anticipated nor obtained highly significant improvements in interpersonal or group relations. Our structural-task approach and meeting guidelines generally were successful in generating the degree of faculty cooperation necessary for effective group problem solving. In certain instances, however, poor interpersonal relations stifled collective decision activities.

The SF-PS-CD program in some instances could be reinforced by the addition of a person-oriented OD component. Although a strategy such as sensitivity training might work to improve group performance, it would also involve additional expenditures and might conceivably cancel out certain benefits of the structural-task approach. These, of course, are empirical questions which only can be answered through future research and experimentation. Teachers in one of the experimental schools which implemented complete collective decision structures reported virtually no improvements in colleague relations. Before these results were known, an administrator from this school indicated that problem solving efforts sometimes were restricted by poor interpersonal relations among particular faculty members. In another experimental school, collective decision activities were taken over by a small clique or special interest group of teachers who succeeded in imposing their definitions of problems and solutions on other faculty members. The majority of teachers who had little influence over this school's collective decisions probably resisted their implementation at the action stages. Extended process and product evaluation might have indicated that a person-centered component in our OD strategy would have improved collective decision activities at certain points in time in these two schools.

The SF-PS-CD program had a greater impact at the building than at the central office level of the school districts. For purposes of experimentation and manageable sample size, schools (rather than districts) were randomly assigned to the various treatment conditions. This resulted in the designation of only one or two buildings as SF-PS-CD schools in any one of the five cooperating districts; the remaining schools were assigned to the various control conditions. Program activities at the district level probably were limited by the small number of schools engaged in problem solving activities within the district. Future programs should focus on the total district to provide for the solution of overall district problems. Using the district as the unit of treatment should increase coordination and cooperation between schools at both the building administration and faculty levels. Interorganizational problem solving and collective decision making might then assist educators in coping more effectively with crucial problems such as lack of community financial support.

A major strength of the program was its relatively low cost. Financial and time considerations demanded a restricted level of interaction between the external agents and experimental school personnel after the interventions had been initiated. Both program leaders and principals agreed that greater participation on the part of the consultants would have been highly desirable. Program leaders especially felt, at times, that they were "out on a limb" without sufficient outside intellectual and emotional support. Future action-research projects of this type should involve greater external agent participation. Attempts should be made to gauge the incremental benefits obtained in relation to the costs of added consultant involvement.

Greater support for collective decision activities could be provided in a number of ways. Principals, program leaders, and the external agents could meet more frequently for purposes of process or formative evaluation. A series of one - or two - day training sessions could be instituted throughout the school year to keep the practitioners abreast of new developments and provide them with a better understanding of program theory and methods. Sessions on problem solving techniques and refinements could be held to encourage program leaders to exchange experiences, new ideas, and methods. Additional questionnaires pinpointing particular problem areas could be developed by the external agents, in collaboration with the school representatives, to provide further cross-organizational feedback. Increased external resource inputs also could be achieved by providing each program leader with a contact person at the consulting agency. Assuming a higher level of funding, consultative assistants could be assigned to one or more schools to provide ongoing and continued interaction and support.

Possibly the greatest shortcoming the SF-PS-CD program was that it did not stimulate the adoption of externally-generated innovations in the experimental schools. The intervention's design focused mainly on the generation of faculty solutions to school problems. Provisions were not made to increase the faculty's awareness of and interest in externally-generated technological innovations. Organizational changes in the experimental schools consequently were more structural than technological.

Schmuck and Runkel (1970) found that their problem solving program produced more human and structural innovations than "packaged" innovations. Packaged innovations are those " . . . for which there is some tangible set of materials and instructions that goes along with the innovation such as teaching materials, specifications for a new job, TV equipment, or instructions for a bookkeeping method" (p. 115). Many packaged programs can be viewed as technological innovations, particularly those technological changes which do not demand drastic problem solving or structural modification for implementation. To a great extent, our findings are consistent with those of Schmuck and Runkel; both OD approaches engendered greater problem solving and structural changes than technological or packaged innovations in the experimental schools. Group problem solving and collective decision efforts focus initially on such factors as the identification of school problems and needs, communication adequacy, resource utilization, task assignments, and role coordination. Implementation of new technological ideas may be postponed temporarily as teachers focus on improving the functioning of a system previously subjected to incomplete or ineffective introductions of new technologies.

An OD program can thus serve initially to facilitate the adjustment of organizational structure and human subsystems not only to the external but also to the internal technological environment. The ultimate objective would be to bring about favorable changes in the organization's technology, improve the system's ability to carry out its tasks, and increase organizational productivity. These objectives seem to call for a second stage OD program which focuses on the organization's technological subsystem and incorporates mechanisms to stimulate the initiation and implementation of technological innovations.

The technological subsystem of an organization is highly interrelated with the human and structural subsystems; changes in one subsystem often necessitate changes in the others (see Leavitt, 1965). The implementation of "hard" innovations in educational systems often has been unsuccessful because human and structural factors have been ignored. Even when these factors are considered, in some instances organizational structure and human subsystems may be so poorly adjusted to the existing technology that further technological changes are practically impossible. In other cases, a school's structure and personnel may be so well adjusted to a static technology that changes are resisted and the entire system is "frozen". A second-stage organizational change program assumes that the first stage human or structural intervention has (1) provided for the adjustment of organizational subsystems or has unfrozen a static organization and (2) has prepared the organization, in terms of structural and human variable, for technological change.

Numerous approaches to a second-stage organizational change program are possible. One strategy, which assumes ongoing collective decision processes with survey feedback and problem solving, will be discussed briefly. The utilization of scientific knowledge depends on the proper dissemination of developed ideas (see Havelock, 1971). Knowledge input in educational systems often is limited because the faculty is not organized adequately to receive new information. We expect that the SF-PS-CD intervention takes a decisive step in the direction of removing this particular obstacle to research utilization. This suggests than an effort should be made to transmit relevant knowledge to the Program Group.

Knowledge input can be increased through the use of "temporary systems" which provide for interaction between faculty members and external specialists for the purpose of bringing about specific changes in the school. Collective decision activities permit the teachers to identify problems and generate solutions. They also permit the faculty group to search for and to initiate interaction with outside specialists who can help solve identified problems. The potential for temporary system success increases as the client (faculty) initiates the interaction and understands the problem or the need for change (Cooke and Zaltman, 1972). As such, a second stage program could focus on assisting the Program Group in finding appropriate resource personnel.

Temporary system activities could take place during scheduled "in-service" days. Many school district in-service programs have been unsatisfactory for a variety of reasons, one of which is that they often fail to relate to genuine perceived faculty needs (Harris and Bessent, 1970). The SF-PS-CD mechanism allows the faculty to define their needs and initiate and implement relevant in-service activities. As in-service programs become an integral component of collective decision activities, there is a greater probability that knowledge gained from in-service education will be put into practice in the classroom. The change supporting norms and structures resulting from the SF-PS-CD intervention should facilitate the implementation of externally-generated innovations, technological or otherwise.

SUMMARY

The purpose of this study was to design, implement, and evaluate a survey feedback-problem solving-collective decision intervention in schools. The approach provided for organization development by incorporating data discussion and group problem solving techniques within collective decision processes. The strategy represents a task-oriented, structural approach to OD and, as such, differs sharply from such person-changing interventions as sensitivity training. The intervention focuses on work roles and relationships rather than on individuals; on job functions, authority, and communication patterns rather than on member traits and characteristics; and on reviewing group progress and problems rather than on assessing individual strengths and weaknesses.

An objective of the strategy is to superimpose complementary collective decision structures over the existing authority structure of the school. Collective decision structures were hypothesized to increase organizational effectiveness and improve teacher attitudes toward their work environment by providing opportunities for problem identification, solution generation, and change initiation at the faculty level. Survey feedback acts to initiate collective decision processes by providing an objective basis for problem and need identification. Task-oriented problem solving sessions provide for problem analysis and solution generation. The overlapping group structural configuration provides for improved vertical communication and facilitates change legitimation and implementation.

The report presents a theoretical model and a practical guide for a survey feedback-problem solving-collective decision intervention in educational systems. Factors hypothesized to account for the effectiveness of SF-PS-CD processes are noted and the planned change-supporting structures are analyzed in terms of primary structural dimensions of the school.

To assess the intervention's impact, twenty-four elementary schools in northern Illinois were randomly assigned to four treatment conditions: SF-PS which incorporates teacher collective decision structures; survey feedback only; pretest-posttest controls; and posttest only controls. Elected faculty members were trained to lead the SF-PS sessions, provided a standardized attitude survey questionnaire for feedback, and assisted in establishing collective structural configurations in the full treatment schools.

The study's experimental design was employed to evaluate the intervention's effects on: (1) teacher attitudes toward important aspects of their work environment and (2) faculty perceptions of collective decision processes in the schools. Questionnaire data indicated that the intervention brought about significant favorable changes in faculty attitudes in the experimental schools. Teachers in the SF-PS-CD schools also had more favorable perceptions of certain collective decision processes than their counterparts in the control schools. Interview data and documentary evidence suggested that the OD program effected changes in the structure of the experimental schools and brought about improved organizational health. Although the program did not seem to increase adoption of externally-generated innovations, improved faculty problem solving and increased teacher change initiation were evidenced.

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APPENDIX A

LETTER AND SUPPORTING MATERIALS TO COOPERATING SCHOOL DISTRICTS

SURVEY FEEDBACK AND PROBLEM-SOLVING PROJECT

Overview

The overall purpose of this research project is to test a method of staff development and organization improvement called "survey feedback and problem-solving." The approach to be investigated combines elements of data discussion and group problem-solving. As such, it differs sharply from such laboratory methods as T-Group or sensitivity training. In survey feedback and problem-solving, the focus is on work roles and relationships rather than on individuals as such, on reviewing mutual progress and problems at the task level rather than personalities or on the norms governing styles of interaction at the social-emotional level. The emphasis is placed mainly on tasks to be accomplished and goals to be reached.

In the survey feedback and problem-solving process, historical data on school functioning are collected through the use of a comprehensive, standardized questionnaire. This instrument measures the opinions and attitudes of teachers toward important aspects of their work environment, e.g., administrative practices, professional work load, educational effectiveness, performance and development, colleague relations. Results are presented to the groups surveyed in a meaningful way and group members are given the resources and encouragement they need to analyze what they have expressed in the survey, why they have said it, and what can be done about it.

It is hypothesized that when the process is successful the group emerges with new insights and with effective ways of solving its problems and meeting its needs. The practice of systematic analysis, problem-solving, and remedial action is carried through in terms of new organization structures and procedures.

The subjects of the research will be all the teachers and principals in a total of 48 elementary schools. The study tests for the effects of pre-testing, feedback only, and feedback and problem-solving. A field experimental design calls for random selection of schools according to the following pattern:

A: pretest, feedback and problem-solving, and posttest

B: pretest, feedback only, and posttest

C: pretest and posttest

D: posttest only

Each of the four groups will be composed of 12 schools.

The necessity for random assignment of schools to one of these four "treatments" must be underscored. We ask that those faculties who agree to participate make a prior commitment to cooperate on the basis of their not knowing in advance their assignment as either a pretest-posttest, posttest only, feedback and problem-solving, or feedback only school. The reason for this stipulation is that only through strict randomness in assigning schools from the accessible target population (all 48 cooperating schools) can the main effects of feedback and problem-solving be assessed while controlling

for the effects of extraneous variables which might account for the changes hypothesized in the research. It should be added that in the process of randomization each school has an equal chance of becoming any one of the four types of treatment schools.

The pretest and posttest involves filling in the previously-mentioned 120-item attitude survey questionnaire. The questionnaire takes the teachers an average of about 30 minutes to complete.

a. The pretest would be administered to the faculties in 36 of the schools in January, 1971 and the posttest one year later (late Fall of 1971).

b. In those 12 schools selected for feedback only, a single two-hour session would be required in the Winter of 1971 to present the survey findings to the faculties.

c. In those 12 schools selected for feedback and problem-solving, approximately 5 two-hour sessions with the faculties would be required in the Winter of 1970-71 to present, discuss, and analyze the findings and develop solutions to identified problems and needs.

Most of the research work and time spent would involve the faculties of only 12 of the 48 schools (those with feedback and problem-solving). The other 36 schools serve as "controls". Perhaps the five problem-solving sessions in these experimental schools might constitute a desirable inservice activity for the faculties of these schools.

The feedback and problem-solving and feedback only sessions would be conducted by teachers who will be nominated for this leadership role by their

fellow teachers in each school at the time of the pretest administration. A half-week training session will be conducted for the feedback only leaders and a full-week training session for the feedback and problem-solving leaders on program content, methods, use of materials, feedback and (where appropriate) problem-solving techniques. The training of these teachers will be conducted in the late Winter of 1970-71 by Professor Roy V. Wood of the School of Speech at Northwestern University.

The leadership training will necessitate releasing participating teachers from their normal duties from three to five days. Costs of providing released time for the teachers will be reimbursed to the cooperating district.

The results of our previous investigations of survey feedback and problem-solving, and the research done by others in this field, lead us to believe that this approach to school improvement holds great promise for building more stable, productive, and satisfying work relationships. We should indeed be very grateful for the sanction and support that you personally might be willing to lend to this project and invite you to contact us regarding participation or for additional information.

Robert J. Coughlan, Ph.D.
School of Education
Northwestern University
Evanston, Illinois 60201
Phone: 492-3218

Gloria Kinney, Ph.D.
Executive Director
Northwest Educational Cooperative
112 North Belmont Avenue
Arlington Heights, Illinois 60004
Phone: 394-4540

NORTHWESTERN UNIVERSITY
EVANSTON, ILLINOIS 60201

THE SCHOOL OF EDUCATION

Dear

We certainly do appreciate your willingness to participate with us in researching the use of the survey feedback and problem-solving approach to organization development in schools.

We are enclosing a description of the project to refresh your memory about its objective and methods.

The experimental design of the study calls for strict random assignment of participating schools into one of four groups:

Type A: 12 pretest, feedback and problem-solving, and posttest schools.

Type B: 12 pretest, feedback only, and posttest schools.

Type C: 12 pretest and posttest schools.

Type D: 12 posttest only schools.

The assignment of schools to groups has now been completed, using a table of random numbers, with the result that your school is a member of Type _____.

The schedule of program activities established for schools in your group is enclosed. We ask you to conform as closely as possible to this schedule in order to guarantee uniformity in operations and keep everyone abreast of activities.

RESEARCH ON SURVEY FEEDBACK AND PROBLEM-SOLVING

Schedule of Activities

A. Pretest Questionnaire Administration

1. When Should the Pretest Take Place?

The questionnaire pretest administration should be carried out during the week of January 11-15, 1971. If this proves to be administratively unfeasible then please schedule the pretest on a day as close as possible to the week of January 11-15.

2. Who Should Fill In the Questionnaire?

The questionnaire should be completed by all permanently assigned, certified, regular classroom teachers in the school as well as any special service personnel who spend more than 50 percent of their working time in the school.

The questionnaire should not be administered to any administrative, supervisory, consultant, clerical, or custodial personnel since they are not the subjects of the study.

3. How Should the Questionnaire Be Administered?

The questionnaire should be administered on a group basis with all the teachers filling in the forms at the same time. A good occasion might be a regularly scheduled faculty meeting where the task could be completed as part of the agenda. The entire faculty might also be brought together in the afternoon for a special meeting in the library, cafeteria, or other suitable area. Please make sure that the physical setting is comfortable, has tables or clipboards for writing, and has adequate space for privacy.

It would be highly undesirable to have individual teachers fill in the questionnaire at their leisure over a period of days. This leaves the door open for a possible contamination of results in the event that teachers discuss their reactions among themselves before completing the questionnaire.

If one or more teachers are absent the day of the survey administration, please inform Dr. Robert J. Coughlan of their names. He will send them forms to be completed and returned directly to him.

4. How Long Does It Take To Complete the Questionnaire?

The typical teacher can fill in the questionnaire in approximately 25-30 minutes. However there are always a few teachers who like to take more time. It would be a good idea to provide an hour's time for the actual administration.

Teachers may leave the room as soon as they turn in their completed forms.

5. Who Should Conduct the Questionnaire Administration?

Experience shows that effective attitude survey administration depends on guaranteeing the anonymity of questionnaire respondents. We do not ask any teacher to identify himself in the survey process and we enlist your support in seeing that this does not happen. As part of the strategy for preserving anonymity we strongly recommend that the principal nominate a teacher in the school to serve as survey questionnaire administrator. This teacher should have the trust, confidence, and respect of fellow teachers.

6. What Steps Should Be Taken in the Actual Administration?

In the questionnaire administration meeting the principal should introduce the research study to the teachers, explain its overall objectives and methods, and answer any questions as best he can. The enclosed overview of the project may prove useful for this purpose.

He should then turn over the actual questionnaire administration to the teacher appointed for this task. (The teacher should be briefed on the assignment beforehand.)

The teacher survey administrator should distribute the questionnaires to the faculty members present, collect the forms immediately after they are completed (without examining them), and at the end of the period mail them directly to the researchers in the stamped, addressed envelope that is provided. This procedure carries greatest "face validity" when it is done in the presence of one or more other teachers.

The principal and any other administrators in the building should leave the room during the questionnaire administration -- "make themselves scarce". This provides a strong signal to the teachers that the administrators are sincere in their desire to preserve every teacher's anonymity and that they are not in league with the researchers in trying to identify and read any particular teacher's completed form.

7. Should All Questionnaires Be Returned?

The teacher survey administrator is asked to count all the questionnaires that are distributed and account for and return all the filled-in as well as blank or unused forms that have been provided. We have found that it is not good practice to have the questionnaire floating about the district and community with inadequate or erroneous explanations as to its purpose. The survey administrator should also not forget to fill in a form for her- or himself! Parenthetically we would like to thank this person very much for carrying out this very important task.

B. Program Leadership Selection and Training

1. How Will the Program Leaders Be Selected?

In Type A and B Schools the teachers select their own program leaders. These leaders will conduct the feedback and problem-solving and feedback only sessions in their particular schools. In each school, the teachers will be asked at the time of pretest administration to write in the names of the three teachers on their faculty whom they feel would be most qualified to conduct these sessions. The teacher who receives the highest aggregate number of votes will be appointed program leader of the school.

The principals will be informed of the name of their school's program leader by January 30, 1971.

2. Who Will Train the Program Leaders?

Those teachers selected for the leadership role will be invited to take part in a training program covering the study's content and methods. The training consists of a three-to-five day workshop to be conducted on the Northwestern University campus.

The exact location of the training workshop will be announced at a later date.

The training will be under the direction of Professor Roy V. Wood of the School of Speech at Northwestern University.

3. When Will the Training Take Place?

The training workshop is scheduled for the week of February 15-19, 1971. Program leaders will have to be released from their normal full-time duties from three to five days during this period in order to attend the training workshop.

4. How Is Payment for Released Time Arranged?

Payment for the released time of teachers for leadership training is provided by research project funds. Districts are asked to send invoices to Dr. Robert J. Coughlan in the amount of the district's established substitute teacher rate for those teachers taking the leadership training.

C. Feedback of Survey Results

1. What Happens to the Results of the Pretest Administration?

In Type A and B Schools only, questionnaire findings will be tabulated, profiled, and brought back to their respective faculties for presentation by the program leaders. Each school faculty will review only its own results and not the findings of any other particular

school. (A composite profile of all 36 pretest schools will be prepared to serve as a benchmark in discussion and analysis.)

2. When Will Survey Results Be Made Available?

Overall survey results and supporting data for each Type A and B School will be forwarded to the principal and program leader during the week of March 1-5, 1971.

3. When Should the Feedback Sessions Be Conducted?

Program leaders in Type A and B Schools should begin feeding back the results of the survey questionnaire for their particular school during the month of March, 1971.

4. How Many Meetings Will Be Required for the Feedback?

Arrangements should be made for two to three feedback sessions with the total faculty of the school. Each session will last approximately two hours.

It is most desirable to space these meetings one week apart to strengthen carry-over from one meeting to the next. However, a two-week separation between meetings is acceptable. A separation of more than two weeks is undesirable because the impact of the work from one meeting to the next becomes dissipated.

Program leaders will be trained in the content and methods of conducting these feedback meetings.

5. Who Should Attend These Feedback Meetings?

All the teachers as well as special service personnel who filled in the pretest questionnaire should be present for the presentation of findings in the feedback meetings.

Principals, other district administrators, and supervisors or consultants are asked to absent themselves and not take part in any aspect of these meetings.

6. What Is the Final Outcome for Feedback Only (Type B) Schools?

Results of the feedback sessions, including major faculty reactions and responses to the findings, will be summarized as a group report on special forms to be provided. At no point will any individual faculty member's ideas, reactions, opinions, or sentiments be revealed. Group reactions and responses will be reported to the principal in oral as well as written form by the program leader.

Program leaders will be trained in preparing these written reports and in presenting the results of the feedback sessions to the principal.

At this point Type B Schools will have completed their assignment in the first phase of the program.

D. Group Problem-Solving Sessions (Type A Schools)

1. What Happens After the Feedback Sessions?

The feedback sessions serve as the basis for identifying the school's key problems and needs. Working from these data, the faculties in Type A Schools begin a series of problem-solving sessions designed to clarify the exact nature of each identified problem, its basic reasons and causes, and steps to take by the faculty itself or recommendations to others in the school or district to solve or alleviate the problems.

2. When Should the Problem-Solving Sessions Begin?

The problem-solving sessions should commence as soon as possible after the feedback sessions have been completed. This places the first problem-solving sessions at approximately the last week of March or the first week of April, 1971.

3. How Many Problem-Solving Sessions Will Be Required?

Experience has shown that it takes a faculty from three to five sessions to work through the identified problems and needs and arrive at specific ideas and suggestions for staff development and school improvement. Each session will run approximately two hours.

It would be most desirable to schedule these problem-solving sessions on a weekly basis. This interval provides maximum carry-over from session to session and will enable the teachers to finish their assignments before the close of the school year.

Program leaders in Type A Schools will be trained in the content and methods of conducting these problem-solving sessions.

4. Who Should Attend the Problem-Solving Sessions?

All the teachers as well as special service personnel who took part in the feedback sessions should be present in the series of problem-solving meetings.

Again, principals, other district administrators, and supervisors or consultants are asked to forego participating in these meetings and be absent while problems are being discussed.

5. What Is The Final Outcome for Feedback and Problem-Solving (Type A) Schools?

Results of the problem-solving sessions, including major faculty recommendations for school improvement, will be summarized as a group report on special forms to be provided.

In Type A Schools, program leaders will be instructed to form a Program Committee in each school. It is suggested that this Committee be composed of (1) the program leader, (2) two teachers from the faculty designated by the program leaders, (3) the school's principal, and (4) two school or district administrators or supervisors designated by the principal.

The purpose of the Program Committee is to review all the results of the feedback and problem-solving sessions. This includes what the school faculty feels ought to be done to solve or alleviate their identified problems and needs, who should do it, and when it should be started and completed.

Again, at no point will any single individual's ideas and suggestions be pinpointed or identified. The purpose of the feedback and problem-solving approach is to develop and propose courses of action for school improvement which have the consensus and support of the faculty and administration as a whole.

Program leaders will be trained in preparing written reports of their group's activities and in presenting the results of the problem-solving sessions to the Program Committee. This Committee will examine the ideas and recommendations contained in the report and lay the groundwork for a program of action for constructive change.

At this point Type A Schools will have completed their assignment in the first phase of the program.

E. Summary of Major Activities And Timetable

1.	Pretest Questionnaire Administration	January 11-15
2.	Program Leader Training	February 15-19
3.	Feedback Sessions (2-3)	March
4.	Problem-Solving Sessions (3-5)	March-May

F. Questions and Consultation

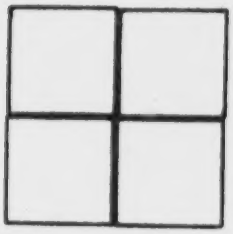
We invite any questions you may have concerning this schedule of activities or any aspect of the research project. Contact:

Robert J. Coughlan, Ph.D.
School of Education
Northwestern University
492-3219

Gloria Kinney, Ph.D.
Northwest Educational Cooperative
Arlington Heights, Illinois
394-4540

APPENDIX B

GROUP PROBLEM SOLVING IN SCHOOLS



GROUP PROBLEM SOLVING IN SCHOOLS

Note: Please Complete This Questionnaire Only If You Were A Teacher In This School Last Year (1970-71)

The purpose of this questionnaire is to investigate the problem solving and decision making processes in a number of schools. We are especially interested in faculty members' attitudes and opinions concerning the identification of problems, the generation of solutions, and the implementation of new ideas in their schools over the past year. The questions primarily focus on the faculty's role rather than the role of the community, students, and other interested groups, in identifying and solving schoolwide and classroom problems.

In an effort to make this questionnaire meaningful and interesting to the respondents, we are suggesting the following framework which traces the series of steps from the realization that problems and needs exist to the final action or implementation of a new idea, program, or procedure in your school or school district. These steps, which are not necessarily in chronological order nor mutually exclusive, are: (1) Evaluation of school performance and the identification of problems, (2) Stimulation of interest in a new idea or solution, (3) Internal Diffusion, the communication of the idea or proposal, (4) Legitimation, the formal approval of the idea, (5) Adoption, the decision to accept the innovation or suggestion, (6) Implementation, the actual use of the new program or procedure, and (7) Routinization, the eventual merging of the program with the school's standard operating procedures.

The questionnaire consists of seven sets of statements which correspond to these steps. Preceding each set of statements is a short definition of the step being investigated. In the space to the right of each statement, please insert an:

"A" if you AGREE with the statement,
"D" if you DISAGREE with the statement,
"?" if you DON'T KNOW or are UNDECIDED about the statement.

Thank you in advance for your cooperation.

EVALUATION (step 1) -- the identification of school goals and the comparing of these objectives to present performance. This step includes the uncovering and identification of school problems.

1. The administration and/or faculty members have recognized and properly identified a large proportion of the problems in this school. ☐

2. The serious problems in this school, the type which present great difficulties for the faculty, have not been recognized by the administration. ☐

3. The administration often has been unwilling or unable to cope with the serious problems that have been identified. ☐

4. As far as I know, there has been a high degree of consensus among faculty members regarding the goals of this school. ☐

5. Faculty members generally have agreed on the importance of the problems identified. ☐

6. Whether formally or informally, I feel that a majority of the faculty has participated in identifying and defining problems (as opposed to a small number of individuals dominating these activities). ☐

7. For one reason or another, faculty members have been discouraged from discussing and identifying school problems. ☐

8. Teachers have felt threatened when attempting to bring certain types of problems to the attention of the administration. ☐

9. I personally have been surprised that so many other faculty members agreed with me that the problems identified were serious. ☐

10. Faculty members have been given sufficient opportunity to discuss and define school goals. ☐

11. This school has provided the faculty with procedures and mechanisms (such as problem solving meetings, special committees, surveys, etc.) for evaluating our work situation and/or identifying problems. ☐

Note: If you AGREE with statement 11, go on to the next statement. Otherwise, please skip the next three items and continue with statement 15.

12. Faculty members have failed to use these formal procedures and mechanisms effectively. ☐

13. Without these formal procedures and mechanisms, problems would have been properly identified anyway. ☐

14. Many faculty members were unaware that certain problems existed until they were surfaced during those meetings. ☐

15. Even though faculty members have participated in identifying school problems, most problems have been identified by the administration. ☐

16. The administration has rarely taken the initiative in bringing up and discussing school problems with the faculty. ☐

STIMULATION (step 2) -- the interest in a new idea and/or the identification of suggestions and potential solutions for existing school problems.

17. Faculty members have failed to generate suggestions and ideas which would be acceptable to other individuals in this school and/or school district. ☐

18. Very few faculty members have participated in the solving of problems and the identifying of new alternatives. ☐

19. For one reason or another, I have sometimes felt that it is not worth spending a lot of time trying to solve this school's problems by introducing new ideas. ☐

20. If we had really wanted to, faculty members could have set aside more time for generating new alternatives and solutions to problems. ☐

21. The time I've spent trying to solve school problems over this past year has been very worthwhile. ☐

22. Special meetings and group sessions have been conducted to provide the faculty with an opportunity to solve problems and crystallize new ideas as a team. ☐

23. Over this past year, faculty members have effectively generated solutions to problems on a team basis. ☐

24. Generally, solutions to problems have been generated by the administration rather than the faculty. ☐

25. The problem solving capabilities of this school are limited due to poor communication across grade-level and/or departmental lines. ☐

INTERNAL DIFFUSION (step 3) -- the communication of new ideas and suggestions throughout the school. This step also includes the modification of ideas and proposed solutions resulting from "feedback" (that is, the reaction of other organizational members to the idea).

26. When solutions to problems have emerged in this school, they have been communicated to and discussed with most faculty members of this school. ☐

27. When solutions to problems have emerged in this school, faculty members have usually discussed these proposed solutions with parents and other community members. ☐

28. New ideas and suggested improvements have frequently been modified and refined by faculty members to better fit the needs of the school. ☐

29. For one reason or another, faculty members have been reluctant to discuss their ideas with other people in this school and/or school district. ☐

30. Proposed problem solutions and innovations have often been altered for the worse in an effort to make them more acceptable to the faculty and/or administration. ☐

31. Teachers in this school have felt that it is their responsibility to make other faculty members aware of new ideas and possible solutions to existing problems. ☐

32. The available procedures and channels for communicating proposed solutions have failed to work effectively. ☐

33. I have been able to determine, fairly accurately, whether the faculty generally supports or rejects a proposed change. ☐

34. Information about proposed changes more often flows down (than up) the organizational hierarchy in this school and district. ☐

35. There has been insufficient communication across grade-levels concerning potential solutions and proposed changes. ☐

36. There has been insufficient communication across departmental lines (e.g., library, special education, guidance, etc.) concerning potential solutions and proposed changes. ☐

LEGITIMATION (step 4) -- the formal sanctioning of an innovation or proposed alternative by those individuals who possess the power to approve or reject new ideas and changes.

37. I do not know what types of changes must be approved by the administration before they can be implemented. ☐

38. In most cases, sound and financially feasible ideas have been granted administrative approval. ☐

39. When suggestions and solutions have been denied administrative approval, reasons for the rejection and/or suggestions for the modification of the idea usually have been offered. ☐

40. I feel that the time interval between the conceiving of new ideas and the eventual sanctioning of those ideas often has been excessively long. ☐

41. Even when the need for formal approval has been recognized, faculty members have often neglected to obtain administrative support for their ideas. ☐

42. The individuals in this school who have the authority to approve or reject new ideas are generally easy to work with. ☐

43. In this school, methods and procedures have facilitated (rather than complicated) the process of obtaining approval for faculty suggestions. ☐

44. Faculty members sometimes find communication with administrators difficult due to hierarchical and status barriers. ☐

ADOPTION (step 5) -- the decision to accept the innovation or suggestion by members of the organization. This step includes the planning for the change and the preparation of the school system for the new program or procedure.

45. New programs and solutions that have been chosen for adoption have usually been unsatisfactory answers to the problems of this school. ☐

46. Regardless of whether or not solutions and ideas were successfully implemented, the faculty has generally supported the proposed changes. ☐

47. Regardless of whether or not solutions and ideas were successfully implemented, the principal of our school has generally supported the proposed changes. ☐

48. Regardless of whether or not solutions and ideas were successfully implemented, the central office administration has generally supported the proposed changes. ☐

49. Regardless of whether or not solutions and ideas were successfully implemented, parents and community members have generally supported the proposed changes. ☐

50. Apathy on the part of the faculty has minimized the probability that significant changes will be made in this school. ☐

51. By the time a new program or idea has been put into practice, faculty members have had a very clear idea of exactly what is supposed to happen. ☐

52. In this school, the actual implementation of new ideas generally has been well planned for. ☐

53. Over the past year, the ideas and solutions preferred by the administration generally have been the same as those preferred by the faculty. ☐

54. New programs which would change the status structure of this school have usually been rejected. ☐

IMPLEMENTATION (step 6) -- the actual use of the innovation, new program, or new procedure by the school on either a trial or permanent basis.

55. It seems that most new ideas around here have never gotten past the talking stage. ☐

56. For one reason or another, new programs have often been sabotaged by people in this school. ☐

57. Though it has not necessarily been obvious, faculty members have often disliked many of the changes made in this school. ☐

58. When new programs have been put into practice around here, faculty members have received training they might need concerning new roles and procedures. ☐

59. New programs have often led to unwanted and unanticipated side effects. ☐

60. Change in this school often creates problems because many individuals are unwilling to change their habits. ☐

61. Most of the innovations implemented in this school have been suggested by the administration rather than by the faculty. ☐

62. There has been good communication between the faculty and administration concerning the success or failure of new programs. ☐

ROUTINIZATION (step 7) -- the merging of the new program or procedure with the school's regular routines -- the standardization and formalization of roles and procedures involving the implemented innovation.

63. After a while, it seems that new programs have fit right into our standard procedures. ☐

64. As unwanted side effects of new programs have appeared, these problems have been effectively dealt with. ☐

65. For one reason or another, many new programs and innovations have been discontinued. ☐

66. Attempts have been made to evaluate, either formally or informally, the effectiveness of new programs. ☐

67. New programs, which should have been at least partially controlled by the faculty, have been taken over by the administration. ☐

68. This questionnaire fails to reflect how faculty members are involved in the decision and change processes in this school. ☐

APPENDIX C

SCHOOL SURVEY

Col.	
1-3	4
5-6	7

SCHOOL SURVEY

INSTRUCTIONS. This inventory contains 120 statements covering your opinions and attitudes about your work. Read each one carefully, and decide how you feel about it. You will agree with some statements and disagree with others. You may be undecided about some. To help you express your opinion, three possible responses are given beside each statement. All you have to do is choose the response that most nearly reflects your opinion, and mark an "X" in the box under it. Use a pencil, and if you make an error or wish to change your answer, simply make an erasure and then mark an "X" in the proper box.

WORK RAPIDLY, BUT ANSWER ALL STATEMENTS. Do not spend too much time on any one statement. Some of the statements may not be worded exactly the way you would like them to be. However answer them as best you can. Be sure to respond to every statement. Mark only one box for each statement. If you cannot really decide about a statement, mark the "?" box and go on to the next statement. This is not a test; there are no "right" or "wrong" answers.

		Agree	?	Disagree	
1.	People in the community this school serves are "education-oriented"	☐	☐	☐	(21)
2.	Too many teachers in this school seem to be more concerned with their own personal interests than with the overall welfare of the school	☐	☐	☐	
3.	My work in this school district provides me with ample opportunity for personal growth and development	☐	☐	☐	
4.	I have plenty of opportunity to express my ideas about salary matters in this district	☐	☐	☐	
5.	This school assumes too many educational responsibilities that properly belong in the home or to other community agencies	☐	☐	☐	
6.	It seems to me that the school board should reconsider the amount of authority it has delegated to the superintendent	☐	☐	☐	

Go on to next page.

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		Agree	?	Disagree
7.	Insofar as they affect me, decisions made by the superintendent are fair and equitable	☐	☐	☐
8.	I am asked to read too many communications from higher-ups in this school district	☐	☐	☐
9.	Our library services for students are very satisfactory	☐	☐	☐
10.	The work of staff specialists in this school (subject area consultants, physical education, music, art, foreign language teachers, etc.) is well coordinated with the work of the classroom teachers	☐	☐	☐
11.	I am asked by administrators and supervisors to spend too much time in school or district-wide professional meetings	☐	☐	☐
12.	Our salary schedule fails to compensate us sufficiently for years of service	☐	☐	☐
13.	My principal backs me up in my dealings with parents	☐	☐	☐
14.	Physical facilities for our personal use (lounge, washroom, etc.) need to be greatly improved	☐	☐	☐

		Agree	?	Disagree
15.	The salary schedule here gives me little incentive to seek advanced training	☐	☐	☐
16.	From all I can gather, people who get promotions in this school district deserve them	☐	☐	☐
17.	Certain community pressure groups exert too much influence on the professional work of this school	☐	☐	☐
18.	The quality of supplementary materials for student use in this school needs to be greatly improved	☐	☐	☐
19.	The school board seems more concerned about keeping costs down than about building an effective school program	☐	☐	☐
20.	I feel our salary schedule adequately rewards outstanding work	☐	☐	☐
21.	I think my performance is evaluated fairly by those who are assigned to appraise my work	☐	☐	☐

Go on to next page.

		Agree	?	Disagree
22.	In this school, the assistance provided me in matters of curriculum and methods is clearly effective	☐	☐	☐
23.	The instructional materials provided for me in my work are very satisfactory	☐	☐	☐
24.	A student in this school sometimes has to do without needed supplementary materials	☐	☐	☐
25.	Little effort is made in this school to evaluate the effectiveness of the instructional program	☐	☐	☐
26.	The school library and/or reference materials available to students are adequate to meet instructional needs	☐	☐	☐
27.	I think the school board does all it can to help build an effective educational program	☐	☐	☐
28.	My principal seldom tries to get my ideas about things	☐	☐	☐
29.	The policy for student promotion and retention in this school is sound	☐	☐	☐
30.	The textbooks my students are assigned are irrelevant, inaccurate, and/or out-of-date	☐	☐	☐

		Agree	?	Disagree
31.	As far as I'm concerned, extracurricular duties (sponsoring student clubs, school activities, etc.) are distributed fairly in this school	☐	☐	☐
32.	Most of the students I work with have been assigned to the grade level that is best for them	☐	☐	☐
33.	I would prefer a different work assignment (grade level or subject matter) from the one I have now	☐	☐	☐
34.	In general, I approve of the educational policies of the school board	☐	☐	☐
35.	It is easy and convenient in this school to get teaching aids and equipment to use in the classroom	☐	☐	☐
36.	It seems to me that the school board fails to concern itself with some really important educational matters	☐	☐	☐

Go on to next page.

		Agree	?	Disagree
37.	The procedures used in this school for judging my work performance are helpful to me in improving my work	☐	☐	☐
38.	Employee benefits in this district (sick leave, educational leave, personal leave, etc.) fail to fit our needs	☐	☐	☐
39.	Almost all students in this school seem well prepared for advancement to the next higher grade level	☐	☐	☐
40.	In general, the parents of the students in this school are interested in helping us educate their children	☐	☐	☐
41.	I'm rarely told whether or not I'm doing good work	☐	☐	☐
42.	There is an adequate program of student-teacher consultation in this school after each reporting period	☐	☐	☐
43.	I am seldom encouraged by administrators or supervisors to attend outside professional conferences and workshops	☐	☐	☐
44.	I fail to understand how my work performance is appraised and evaluated in this school	☐	☐	☐

		Agree	?	Disagree
45.	I have sufficent supplies for my work	☐	☐	☐
46.	I have adequate opportunity to express my viewpoints about the philosophy and goals of this school	☐	☐	☐
47.	The parents of students exert too great an influence on education matters in this school	☐	☐	☐
48.	Our system for reporting student progress to parents needs considerable improvement	☐	☐	☐
49.	We are permitted to discuss controversial matters with students as long as we remain objective and factual	☐	☐	☐
50.	The superintendent seems to be willing to give careful consideration to the ideas and suggestions of teachers in this school	☐	☐	☐
51.	My principal keeps me well informed about matters affecting my work	☐	☐	☐

Go on to next page.

		Agree	?	Disagree	
52.	This school lacks an "atmosphere of learning".....	☐	☐	☐	
53.	My salary is sufficient to give me a reasonable amount of security	☐	☐	☐	
54.	The specialized programs in this school (music, art, drama, physical education, etc.) need to be greatly improved	☐	☐	☐	
55.	My principal seems to have sufficient influence with the superintendent in deciding what we do and how we do it in our school	☐	☐	☐	
56.	Relations between the parents of students and the staff of this school need to be improved.....	☐	☐	☐	
57.	The superintendent seems to have an effective working relationship with the school board	☐	☐	☐	
58.	Effective remedial help is available to any of my students who are failing in school	☐	☐	☐	
59.	Teachers should have a greater voice in selecting student textbooks and reference materials in this school	☐	☐	☐	
60.	There is a spirit of willingness to experiment with new curriculum ideas in this school	☐	☐	☐	(80) Repeat 1-3 (2) 5-7

		Agree	?	Disagree	
61.	I seldom get the help I need in handling difficult discipline cases.....	☐	☐	☐	(21)
62.	The school board seems to recognize the professional character of our work in the schools.....	☐	☐	☐	
63.	The emphasis on academic subjects in this school sometimes operates to the detriment of students who will not be pursuing academic programs later	☐	☐	☐	
64.	The number of students I have to work with makes it difficult for me to do a good job	☐	☐	☐	
65.	The school board seems to be interested in obtaining our ideas and suggestions.....	☐	☐	☐	
66.	I am required to do too much administrative paper work (attendance reports, tardy slips, statistical reports, etc.)	☐	☐	☐	

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		Agree	?	Disagree
67.	For my level of professional competence, I am adequately rewarded financially	☐	☐	☐
68.	The superintendent seems to lack interest in the personal welfare of the staff of this school	☐	☐	☐
69.	Most of the time it's safe to say what you think around here	☐	☐	☐
70.	In my opinion, the school board seems to be divided on too many issues	☐	☐	☐
71.	In working with my students, I have adequate opportunity to allow for their individual differences	☐	☐	☐
72.	We lack satisfactory procedures in this school for evaluating student progress	☐	☐	☐
73.	Administrative matters seem to get more attention in this school than the educational program	☐	☐	☐
74.	There is adequate space and equipment for carrying out my work--including desk space, drawers, bookshelves, and the like	☐	☐	☐

		Agree	?	Disagree
75.	I am required to perform too many non-professional duties in this school (yard, hall, stair, lunchroom, and study hall duties)	☐	☐	☐
76.	People in this school cooperate well	☐	☐	☐
77.	The students I work with seem to need an unusual amount of discipline	☐	☐	☐
78.	My principal fails to "go to bat" for us with his superiors	☐	☐	☐
79.	The buildings and grounds where I work are kept as clean and attractive as possible	☐	☐	☐
80.	In my opinion, our specialized services (EMH, speech therapy, guidance counseling, social work, etc.) fail to meet the needs of our students	☐	☐	☐
81.	Generally speaking, I feel I could do far better work with students different from those usually assigned to me	☐	☐	☐

Go on to next page.

		Agree	?	Disagree
82.	Our practices for marking and reporting student progress are satisfactory	☐	☐	☐
83.	My principal seldom shows initiative in seeking ways to help us in our work	☐	☐	☐
84.	There are many cliques or groups in this school that create an unfriendly atmosphere	☐	☐	☐
85.	Interruptions (messages, monitors, intercom bulletins) are kept to a minimum in this school	☐	☐	☐
86.	Adequate facilities are available for my use during off-periods for grading papers, meeting with students and parents, and the like	☐	☐	☐
87.	The superintendent usually tries to take action on the complaints of staff members in this school	☐	☐	☐
88.	The poor work performance of some people on this school staff makes it difficult for us to achieve adequate instructional goals	☐	☐	☐
89.	My principal is fair in his dealings with me	☐	☐	☐

		Agree	?	Disagree
90.	The general physical condition of my classrooms (lighting, temperature, ventilation, etc.) hampers me in doing a good job	☐	☐	☐
91.	A few of the people in this school think they run the place	☐	☐	☐
92.	I receive sufficient clerical assistance to do my job effectively	☐	☐	☐
93.	There is little opportunity for me to take part in the development of the curriculum of this school	☐	☐	☐
94.	This school system fails to provide adequately for the needs of exceptional students (slow learners, gifted students, the handicapped)	☐	☐	☐
95.	My professional work load is fair and reasonable	☐	☐	☐
96.	Too many students in this school seem to be more interested in getting grades than in learning	☐	☐	☐

Go on to next page.

		Agree	?	Disagree
97.	The classrooms, offices, and other work areas in this school need considerable improvement	☐	☐	☐
98.	Most of the professional meetings I am required to attend in this school district are worthwhile	☐	☐	☐
99.	There seems to be too much friction between administrators in this district	☐	☐	☐
100.	Too often we are asked to work on committees whose efforts and reports are subsequently ignored	☐	☐	☐
101.	This school district lags behind other districts of comparable size and financial resources in introducing up-to-date materials and equipment	☐	☐	☐
102.	The layout of this school is inconvenient for the staff	☐	☐	☐
103.	Even when you take into account differences in student ability, other schools in this locality seem to be ahead of this one in educational effectiveness	☐	☐	☐

		Agree	?	Disagree
104.	My recommendations about promoting and retaining students are usually followed	☐	☐	☐
105.	I feel our school system is one big reason why people choose to live in this community	☐	☐	☐
106.	My principal seems to take suggestions for improvement as a personal criticism	☐	☐	☐
107.	We are seldom informed about what the top administrators in this district are thinking	☐	☐	☐
108.	I would rate this school system as one of the best for those who want to work in education	☐	☐	☐
109.	This school district's in-service educational program helps me improve my professional skills	☐	☐	☐
110.	Educational jobs in this school district seem to be graded fairly with respect to salary	☐	☐	☐

Go on to next page.

		Agree	?	Disagree	
111.	In my opinion, adequate educational standards are being upheld in this school	☐	☐	☐	
112.	I'm essentially in agreement with the school's student retention policy	☐	☐	☐	
113.	My principal has an unrealistic view of what goes on in my work situation.....	☐	☐	☐	
114.	Teachers and other professional personnel in this school freely share ideas and materials.....	☐	☐	☐	
115.	Compared with other school systems in this state, our salary scale in this district is okay.....	☐	☐	☐	
116.	My students show normal consideration, courtesy, and respect	☐	☐	☐	
117.	Student absences are excessive in this school.....	☐	☐	☐	
118.	I would definitely recommend this school to prospective teachers as a good place to work	☐	☐	☐	
119.	Filling in this survey questionnaire is a poor way of finding out how I really feel about my work in this school district	☐	☐	☐	
120.	Some good may come out of filling in this questionnaire and cooperating in this study	☐	☐	☐	(80)

COMMENTS.

APPENDIX D

PROGRAM LEADER SELECTION

FACULTY SELECTION OF PROGRAM LEADER

The results of the School Survey questionnaire you are filling in today will be reported back to the faculty of this school during the month of March, 1971.

These report-back meetings will be led by a teacher or special service person on the faculty of this school whom you select for this role. On this form we are asking you to nominate your program leader.

The person whom you select should possess two crucial characteristics: (1) the trust, confidence, and respect of fellow teachers in this school, and (2) the requisite skills or potential for development through training for effective discussion leadership.

The teacher or special service person who receives the highest aggregate number of votes from the faculty of this school will serve as the school's program leader.

This person will take part in leadership training sessions covering program content and methods to be conducted at Northwestern University during February 15-19.

Please PRINT on the lines below the first and last names of three teachers or special service persons on the faculty of this school whom you feel would be best qualified to conduct these report-back sessions. (Please provide use with three names. Do not include among these the names of any principal, administrator, supervisor, or consultant in the school or district.)

(Print) _____

(Print) _____

(Print) _____

Be sure you turn in this nomination form with your completed School Survey questionnaire.

Thanks!